

"British Museum Catalogue of Birds," volumes VII. and VIII. From the Trustees.

"Bulletin of the Museum of Comparative Zoology at Harvard College, Cambridge, Mass.," Vol. XI., Nos. 3 and 4. "Annual Report of the Curator for 1882-83." From the Curator.

"Science," Vol. II., Nos. 41, 43 and 44 ; Nov. 10th to Dec. 7th. From the Editor.

"Say's Conchology," edited by W. G. Binney, 8vo, 1858. "Official Catalogue of the Melbourne International Exhibition of 1881," Vols. I. and II. From J. F. Bailey, Esq.

"Bibliotheca Historico-Naturalis et Mathematica." Lager-Catalog, 1883. From Messrs. R. Friedlander and Son, Berlin.

Two pamphlets, "Botany of Kangaroo Island," and "Lists of Plants from South Australia." By Prof. R. Tate, F.L.S. From the author.

"Monatliche Mittheilungen des Naturwissenschaftlichen Vereins des Regierungsbezirkes Frankfurt." No. 2, November, 1883. From the Society.

PAPERS READ.

SUPPLEMENT TO THE DESCRIPTIVE CATALOGUE OF THE FISHES
OF AUSTRALIA.

BY WILLIAM MACLEAY, F.L.S., &c.

It is now nearly three years since I completed the "Descriptive Catalogue of the Fishes of Australia," and, as I thought probable at the time, it has become very necessary already to publish a Supplement, so many have been the additions made since that date to the Fish Fauna of the Australian waters both salt and fresh.

But in addition to the fishes described since the date of the Catalogue I am enabled by the kindness of Dr. Klunzinger to include now some fishes described by him some years ago in the publications of German Societies, but not seen by me.

Dr. Klunzinger's first publication on Australian Fishes appeared in the "Archiv. fur naturg. XXXVIII., 1872," and consisted of a

list of fishes, some described as new, sent to him by Baron Sir F. von Mueller, and collected in South Australia. Dr. Klunzinger's next publication was of a much more important character. It was a list, with comments and descriptions, of all the Australian Fishes contained in the Mueller Collection in the Museum of Stuttgart, published in the "Sitzb. der K. Akad. Wissensch, 1879." It contains a carefully compiled list of the literature of New Holland Fishes from the earliest period known to the date of the publication, and in addition to the previous list of South Australian Fishes, the author gives notes and descriptions of a large number of fishes from Port Darwin and many parts of Northern Queensland. Dr. Klunzinger's first publication in 1872 clashes somewhat with Count Castelnau's published in the same year, in the first Vol. of the Proceedings of the Zool. and Acclim. Soc. of Victoria. I am not sure which has the priority, but I see that Dr. Klunzinger claims it. Dr. Klunzinger's second publication was read in 1879, and published sometime in 1880, it has therefore priority as regards my Catalogue.

Dr. Gunther's report on the shore fishes collected during the Challenger Expedition, "Zool. Part VI.," also published in 1880, adds a few to the list of Australian Fishes; some of them trawled off Twofold Bay and the rest collected by Sir Wyville Thomson, at the Mary River, Queensland. The greater number however, of the new species here recorded, have been already published in the Proceedings of the Linnean Society of New South Wales, by Mr. De Vis, M.A., Queensland, E. P. Ramsay, F.L.S., Sydney, and myself. I have also been able to add some species from a most excellent paper or rather a series of papers read by Mr. Robert M. Johnston, F.L.S., before the Royal Society of Tasmania in August 1882, on "The Fishes of Tasmania with a classified Catalogue of the known species." It would be well for the Australian Student of Natural History, if Mr. Johnston's example were followed in all branches of Zoology and Botany, in all our Australian colonies. Without questioning the superiority in Biological Science of the Germans, it still seems unnecessary, as it is degrading, for the simple purpose of the identification of species

and the compilation of a classified Catalogue of the animal life of the country to send, as South Australia has done, all her collections to Vienna, to be recorded in a foreign tongue and in foreign publications.

I have adopted in this Supplement the same system as in the Catalogue. I number the species consecutively from the last in the Catalogue, and when referring to any previously noticed, I do so by the number given to it in the Catalogue. I give a description of every genus and species whether new or not, which has not been previously described in the Catalogue, or in the publications of this Society, and I take these descriptions either from Dr. Gunther's Catalogue or from the author direct.

Family. PERCIDÆ.

Species 7. *Lates Darwiniensis*, Macleay.

Found by Mr. Morton in Lillesmere Lagoon, Burdekin River. Proc. Linn. Soc., N. S. Wales, Vol. VII., p. 200.

Species 9. *Pseudolates cavifrons*, All. and Macleay.

Also found in Lillesmere Lagoon. (loc. cit.)

Species 16. *Anthias rasor*, Richards.

I have lately seen a specimen of this Fish from South Australia. Dr. Klunzinger described it in 1872, as *A. rasor* var. *extensus*, from South Australia, and subsequently in 1879, made it a new species. I feel confident, however, that the species is not a good one; the absence of the lateral spot is, I believe, of not unfrequent occurrence.

1134. *SERRANUS POLYPODOPHILUS*. Bleek.

Atl. Ichth. Perc. p. 59, tab. 5, fig 1. Klunz. Sitzb. der K. Akad. der Wissensch, 1879.

D. 11/15-17. P. 2/16-17. A. 3/8-9. L. lat. 110. L. tr. 60/65.

Body oblong, compressed; the height 3 to $3\frac{1}{2}$ times in the length without, and 4 to $4\frac{1}{2}$ times in the length, with the caudal fin; the width of the body is from $1\frac{1}{4}$ to 2 times in the height, and the length of the head is from $2\frac{2}{3}$ to 3 times in the length of

the body without, and $3\frac{1}{2}$ to $3\frac{2}{3}$ times, with the caudal fin; the height of the head is $1\frac{1}{4}$ to $1\frac{1}{2}$ times, and its width $1\frac{5}{6}$ to 2 times in its length; the line of the forehead is straight or slightly convex; the snout and suborbital bone scaly; the maxillary reaches beyond the posterior margin of the orbit; canine teeth in both jaws, rather small; jaws about equal in length; præoperculum angled, the posterior margin with numerous conspicuous teeth, sometimes becoming spiniform at the angle; the sub and interoperculum without conspicuous teeth; operculum with three spines, the middle one conspicuously the longest, and the upper the shortest; the lateral line slightly curved, the apex of the curvature opposite the 5th or 6th dorsal spine. The tail is about as high as it is long; the spines of the dorsal fin are of moderate strength, the first two shorter, the others about 2 or $2\frac{1}{2}$ times in the height of the body, the membrane between the spines deeply incised not lobate; the soft dorsal is a little higher than the spinous, the longest rays being from 2 to $2\frac{1}{4}$ times in the height of the body; the pectoral fins are longer than the postocular part of the head; ventral fins rather rounded; the 2nd and 3rd anal spines nearly equal and nearly the length of two diameters of the eye, the rays resembling the soft dorsal in height; caudal fin rounded. Colour of the body of a brownish or greenish shade, the fins of a golden hue, eyes with the iris yellow or red with a golden margin to the pupil. In young specimens there are generally six broad transverse oblique brown fasciæ, broader than the intermediate spaces on the body, and at all ages there are dispersed over the body numerous blackish and yellowish spots, becoming smaller and more closely distributed with age.

Hab. Cleveland Bay.

I give this habitat on the authority of Dr. Klunzinger. The description is taken from Bleeker. Dr. Gunther, in his Catalogue, (Vol. I., p. 128), suggests the identity of this species with *S. salmonoides*. I have seen many specimens of *S. salmonoides* from New Guinea, all of very much more elongate form than one would infer from the above description the present Fish must be.



1135. *SERRANUS ESTUARIUS*. Macl.

Proc. Linn. Soc., N. S. Wales, Vol. VIII., p. 200.

Hab. Burdekin River.

Species 38. *Serranus armatus*. Casteln.

Dr. Klunzinger finds this to be a *Plectropoma*. Its name, therefore, should be *P. armatum*.

Hab. King George's Sound.

Species 45. *Plectropoma dentex*. Cuv. and Val.

Dr. Klunzinger gives a detailed description and a figure of this species. (Sitzb. der K. Akad. der Wissensch, 1879, tab. 1, fig 1.)

1136. *Genyoroge Macleayana*. Rams.

Proc. Linn. Soc., N. S. Wales, Vol. VIII., p. 178.

Port Jackson.

1137. *MESOPRION ARGENTIMACULATUS*. Forsk.

Gunth. Cat. 1, p. 192. Bleek Atl. Ichth. Perc. p. 74, tab. 46, fig 3. Klunz. Sitzb. der K. Akad. der Wissensch, 1879, p. 341.

D. 10/13. A. 3/8. L. lat. 46. Cœc. pylor. 4.

The height of the body is $3\frac{2}{3}$ in the total length, and equal to the length of the head. The upper maxillary bone reaching to the level of the posterior margin of the eye; a slight notch of the præoperculum always conspicuous; knob of the interoperculum sometimes wanting: fine denticulations above the notch, coarser ones beneath. Caudal fin truncated, pectorals not fully reaching to the anal. Greenish, each scale lighter at the edge, sometimes white.

Port Darwin and Cleveland Bay.

I have never seen this species. The description is taken from Gunther's catalogue, and the localities are given on the authority of Dr. Klunzinger (loc. cit.) Dr. Biecker gives quite 20 synonyms of this fish in the "Atlas," p. 74.

1138. *MESOPRION FULVIFLAMMA*. Forsk.

Gunth. Cat. 1, p. 201. Bleek. Atl. Ichth. Perc. 2, p. 66, tab. 66, fig. 3.

D. 10/13. A. 3/8. L. lat. 50. Cœc. pylor 5.

The height of the body is $3\frac{2}{3}$ in the total length, and the length of the head $3\frac{1}{2}$; the diameter of the eye one fourth of the length of the head. Jaws equal, the upper maxillary bone reaching nearly to below the middle of the eye. Præoperculum indistinctly notched, the denticulations becoming gradually stronger at the angle; no knob on the interoperculum. Caudal fin truncated, pectorals not reaching to the anal; the third, fourth, and fifth dorsal spines, and the second and third anal spines, nearly equal in length and strength.

Yellowish olive, with oblique streaks above the lateral line, and with longitudinal ones beneath; a black lateral blotch on scales of the 22nd to 30th transverse lines.

Port Denison. (Klunzinger.)

Species 68. *Glaucosoma scapulare*. Macleay.

Several fine specimens of this Fish have been captured during the last few months. It is known to some of the fishermen as the "Pearl Perch," and is said to be a most excellent food fish.

1139. AMBASSIS MULLERI. Klunz.

Sitzb. der K. Akad. der Wissensch, 1879, p. 346, tab. 1, fig. 3.

A. wrotenia Klunz. Fishes S. Aust., p. 19 (nec Bleeker.)

This species differs from *A. wrotenia* of Bleeker in the lower and weaker second dorsal spine, in the number of dorsal and anal rays, in the development of the lateral line and in the colour. The height of the body is $3\frac{1}{3}$, and length of head $3\frac{2}{3}$ in the total length as in *A. wrotenia*. From *A. agassizi* Gunth. this species is distinguished by its lower 2nd dorsal spine, which however is higher than the 3rd anal spine, and by the armature of the præorbital which is less distinctly toothed on the margin. There is no trace of a spine above the orbital; the ventral fin does not nearly reach to the anal; the fins are hyaline, slightly spotted with black; the silvery longitudinal band is not very distinct, and there seems to be another above it on the 3rd row of scales. Lateral line ill defined or none.

D. $7\frac{1}{8}$. A. $3\frac{3}{8}$. L. lat. 25-26. L. tr. 13-14.

Port Darwin (Klunzinger.)

Dr. Klunzinger thinks this species resembles *A. agrammus* Gunth. It is very probably the same.

1140. *AMBASSIS MARIANUS*. Gunth.

Zool. Voy. H.M.S. Challenger. Part VI., Shore Fishes.

D. $7\frac{1}{10}$ -11. A. $3\frac{1}{11}$. L. lat. 28.

The height of the body is two-fifths, or in young specimens less than two-fifths of the total length (without caudal), the length of the head one-third. The diameter of the eye is two-sevenths of the length of the head, and two-thirds of that of the postorbital portion. Præorbital strongly serrated. Scales on the middle of the trunk much larger, and those on the nape much smaller than the remainder. Lateral line interrupted below the end of the spinous dorsal, the pores of the posterior portion being rather indistinct. The second dorsal spine is as long as and sometimes a little longer than the third, and one-fourth of the total length (without caudal.) The third anal spine is longer than the second but considerably shorter than the second of the dorsal. A narrow silvery longitudinal streak along the middle of the tail; the membrane between the second and third dorsal spine blackish. Caudal fin not coloured. Queensland.

Length of specimens $1\frac{1}{2}$ to $3\frac{1}{4}$ inches. River Mary, near the Village of Tiaro.

Species 100. *Apogonichthys polystigma*.

Dr. Klunzinger regards this species as identical with *Apogon auritus* C. & V., which it may be, and also as identical with *Apogonichthys marmoratus* All. and Macleay, which it certainly is not.

1141. *APOGON CONSPERSUS*. Klunz.

Archiv. fur Naturg. XXXVIII., 1872. Sitzb. der K. Akad. der Wissensch., 1879,

D. 7. 1/9. A. 3/9. L. lat. 27. L. tr. $3\frac{1}{2}$ /7.

Body oval, rather high, chin not or scarcely prominent. Teeth in moderately broad bands in both jaws, short and conical. Eyes

of moderate size ; the maxillary reaches to the vertical from the hindmargin of the orbit ; the under margin of the præ and suborbital bones not toothed. The rounded angle of the præoperculum is toothed, the anterior edge not. No teeth on the suprascapula. The scales of the lateral line are marked with simple flat triangular figures longer than high. The dorsal spine is strong, particularly the third and fourth ; the second dorsal fin is higher than the first and like the anal, both are rather rounded at the extremity. The ventrals reach to the anal rays ; the pectorals are a little shorter. Tail slightly rounded. Colour (in spirits) brownish with black dots on the anterior part of the body, as well as on the pectoral fins and head. Fins colourless or with indistinct blackish specks, the ventrals blackish on the hinder half.

Hab. Port Phillip. Length, 11 ctm.

This description is translated from the German of Dr. Klunzinger. I have never seen the species, which seems to be very different from anything hitherto described.

Species 91. *Apogon Guntheri*. Casteln.

Redescribed by Mr. Ramsay, "Proc. Linn. Soc., N. S. Wales. Vol. VII., p. 110."

1142. *APOGON PUNCTATUS*. Klunz.

"Sitzb. der K. Akad. der. Wissensch, 1879, tab. 3, fig. 3."

D. 8/10. A. 2/10. L. lat. 25. L. tr. $1\frac{1}{2}/7$.

Height of body and length of head $3\frac{1}{2}$ in the total length. 3rd and 4th dorsal spines $1\frac{1}{2}$ in the height of the body. Like *A. conspersus*, but distinguished by the remarkable length of the caudal peduncle which is only a little shorter than the head. The number of rays also in the transverse line is smaller, and the 8th dorsal spine is sometime absent ; the suprascapula is toothed, the anal fin has ten rays at least, that of *A. conspersus* only 9.

Colour, on the trunk numerous black spots or specks arranged longitudinally along nearly the whole length of the side ; beneath this line each scale has a black spot, but not arranged in lines : the first dorsal has the membrane dark, especially towards the summit. Ventral fins the same ; the other fins light. Caudal slightly rounded. 13 ctm.

King George's Sound. (Klunzinger.)

1143. APOGON LEMPRIERI. Johnston.

Proc. Roy. Soc. Tasmania 1882, p. 142.

"B. 7. D. 6. 1/10. A. 2/9. L. lat. 27. L. tr. 3/10."

"The height of the body is equal to the length of the head, and is contained nearly three times in the total length. Snout short; length about half the diameter of the eye, which latter is fully one-third of the length of the head. The maxillary scarcely reaches the vertical from the posterior margin of the eye. Lower jaws prominent. Two minute cavities on upper part of snout. Hinder margin of præoperculum minutely dentate, anterior ridge simple. Spine of operculum reduced to a soft pointed membrane. No dark spots on root of caudal. Uniformly brownish, with iridescent shades of purple, gold, and light blue; lighter towards belly. Tips of ventral and dorsal fins blackish. Other fins light reddish."

Hab. Dunkley's Point, Sandy Bay, Tasmania. One specimen 4 inches long.

Species 86. *Nannoperca Riverinae*. Macleay.

Klunzinger's *Paradules lotus* seems to be this species. His genus *Paradules* must go, as Gunther's genus *Nannoperca* has priority by more than 10 years.

1144. NANNOPERCA OBSCURA. Klunz.

Paradules obscurus Klunz. Archiv. f. Naturg., 1872.

Sitzb. der K. Akad. der Wissensch., 1879, tab. 1, fig 2.

D. 9/10. A. 3/6. P. 9-10. C. 17. L. lat. 28-30. L. tr.

$2\frac{1}{2}/10$.

Height $3\frac{3}{4}$ and head $3\frac{3}{9}$ in the length. Body elongate, elliptic; profile of head slightly parabolic, nearly straight. Head, snout, forehead and præorbital naked; mouth small, the maxillary reaching only to below the front margin of the eye. Præorbital nearly square, dentate on the posterior margin and angle. Operculum with two spines. Lateral line not continuous, following the line of the back. Dorsal fin deeply notched, the first spine small, the last ray longest; the fin commences before

the last third of the pectoral ; the third anal spine is higher than the second, the soft dorsal and anal fins are alike , the ventrals commence beneath the first quarter of the pectorals and extend to the anus. Caudal slightly rounded. Colour in spirit dark brown, fins grey.

Yarra Lagoon. (Klunzinger.)

1145. MICROPERCA TASMANIE. Johnston.

Proc. Roy. Soc. Tasmania, 1882. p. 110.

D. $8\frac{1}{3}$. A. $3\frac{1}{8}$. L. lat. 28-30. L. tr. 12. P. 13.

“Body compressed. Length of head equal to depth of body at shoulder, and contained in total length four times. Præoperculum not serrated. Scales relatively large, ctenoid. Eye large, nearly as broad as length of snout ; the latter contained in head four times ; dorsal deeply cleft, the first spine slightly pointing forward when erect ; situated immediately over the posterior extremity of pectoral ; the second and third spines longest. Anal commencing in a vertical line, scarcely in advance of the first spinous ray of second dorsal. The second dorsal and the anal soft rays gradually increase in width, the last two or three being of equal length and nearly half the length of the body. Caudal peduncle somewhat elongate. Caudal truncate. Colour dark olive with a pinkish streak along the sides from shoulder to tail. Base of dorsal, anal and caudal fins pinkish, with blackish margins. Belly silvery tinged with gold. Eye dark blue, with golden streak around eye ball.”

Abundant in Rivers North and South Esk. (Johnston.)

Length, 3 to $5\frac{1}{2}$ inches.

1146. GULLIVERIA RAMSAYI. N. sp.

B. 5. D. $6\frac{1}{10}$. A. $2\frac{1}{9}$. L. lat. 44. L. tr. $4\frac{1}{12}$.

Body compressed and moderately elevated ; the height being twice and two-thirds in the length, exclusive of the caudal fin ; the length of the head is about the same ; the diameter of the eye is rather more than the width of the interorbital space, which is flat, naked, much channelled, and about equal to the length of the snout measured to the extremity of the lower jaw. The

profile of the head is slightly concave, but swells out towards the snout into a rather prominent convexity truncate in front. The cleft of the mouth is slightly oblique, the lower jaw distinctly longer than the upper, the maxillary large, triangular, naked and extending to, or very nearly to, the vertical from the posterior margin of the eye. The teeth in the jaws are numerous in broad viliform bands, those on the vomer are situated on a very prominent horse-shoe shaped bony protuberance. The præoperculum has a double ridge, both quite smooth; the operculum has one membranous point. The dorsal spines are very strong, the first very short, the last less than half the length of the second; the first anal spine is very short: the caudal fin is rounded. The lateral line follows the curve of the back. Colour (in spirits) pale brown, the membranes connecting the spines of the first dorsal fin, and the rays of the pectorals, black. Length 5 inches.

From fresh water inland from Port Darwin.

Species 114. *Oligorus Macquariensis*.

This fish is found in the Mary River, Queensland.

1147. OLIGORUS GOLIATH. De Vis.

Proc. Linn. Soc., N. S. Wales, Vol. VII., p. 318.
Moreton Bay.

1148. HOMALOGRYSTES LUCTUOSUS. De Vis.

Proc. Linn. Soc., N. S. Wales, Vol. VII., p. 369.
Brisbane.

1149. THERAPON MACLEAYANUS. Ramsay.

Proc. Linn. Soc. N. S. Wales, Vol. VI., p. 831.
Macquarie River.

Species 139. *Therapon niger*. Casteln.

Klunzinger thinks this fish is identical with *Therapon ellipticus* of Richardson. It should be noted, however, that their respective habitats are far removed from one another; the one inhabiting the rivers of the Murray system, the other those of Western Australia.

1150. THERAPON FULIGINOSUS. Macleay.

Proc. Linn. Soc., N. S. Wales. Vol. VIII., p. 201.
Burdekin River.

1151. THERAPON PARVICEPS. Macleay.

Proc. Linn. Soc. N. S. Wales. Vol. VIII., p. 201.
Burdekin River.

1152. DIAGRAMMA PUNCTATUM. Cuv. and Val.

Gunth. Cat. 1 p. 323. Quoy and Gaim. Voy. Astrol., p. 699.,
Pl. 12, fig. 2. *Plectorhynchus pictus*. Bleek. Alt. Ichth. Perc.
11, p. 24, tab. 51, fig. 4. Syn. *Diagramma ocellatum*, *cinerascens*,
centurio, *pœcilopterum*, and *balteatum*. Cuv. and Val.

B. 7. D. 10/22-23. A. 3/7. L. lat. 85. Vert. 12/15.

"The height of the body is $3\frac{1}{2}$ in the total length, the length of the head $4\frac{1}{2}$. The width of the eye is scarcely longer than the extent of the snout, and $3\frac{1}{2}$ in the length of the head. The upper maxillary extends to the vertical from the front margin of the orbit. Præoperculum with the posterior limb vertical, and the angle rounded, finely and equally serrated. The dorsal fin moves in a high scaly sheath, and is even or slightly notched; the spines are moderate, the second and third the longest, half the length of the head. Caudal truncated; the second and third anal spines equally strong, the latter rather longer. Body and vertical fins with numerous brown spots, disappearing with age; the dorsal and anal fins with a black margin. Sometimes light longitudinal streaks at the side of the head."

Queensland. (Klunzinger.)

1153. DIAGRAMMA LABIOSUM. Macleay.

Proc. Linn. Soc. N. S. Wales. Vol. VIII., p. 202.
Wide Bay.

Species 157. *Histiopaterus labiosus*.

Add Port Jackson to the other "habitats."

1154. SCOLOPSIS AFFINIS. Peter.

Monatsber. Berlin Akad., 1876, p. 832. Klunz. Sitzb. der K.
Akad. der Wissensch, 1879.

D. 10/9. A. 3/6-7. L. lat. 45. L. tr. $4\frac{1}{2}$ /12.

Height of body and length of head 4 times in the total length. Body oblong; the spine of the præorbital not very distinct, as in *S. inermis*, Richards. Eye large. Colour dark, underneath the dorsal fin a darker longitudinal band. A horizontal silvery stripe on the præorbital. 8 ctm.

Port Darwin. (Klunzinger.)

1155. *SCOLOPSIS SPECULARIS*. De Vis.

Proc. Linn. Soc. N. S. Wales. Vol. VII., p. 369.
Queensland.

1156. *SYNAGRIS UPENEOIDES*. Bleek.

Gunth. Cat. 1 p. 375. *Dentex upeneoides*. Bleek. Atl. Ichth. Perc. 11, p. 92. tab. 49, fig. 2.

B. 6. D. 10/9. A. 3/7. L. lat. 50.

"The height of the body is $4\frac{1}{2}$ times in the total length, the length of the head $4\frac{1}{3}$; the diameter of the eye is one-third of the latter and as long as the snout. The upper maxillary reaches to the vertical from the anterior margin of the orbit; the height of the præorbital is $1\frac{2}{3}$ in the diameter of the eye; there are three series of scales between the præorbital and the margin of the præoperculum. Six canine teeth in the upper jaw, none in the lower. The spines of the fins slender, flexible; the middle ones of the dorsal longest, half the height of the body; the soft portion of the fin lower than the spinous. Caudal deeply forked. Rose-coloured; the soft dorsal with a yellow longitudinal band near the upper margin." (Bleek.)

Queensland. (Klunzinger.)

Family. SQUAMIPINNES.

1157. *CHELMO MULLERI*. Klunz.

Sitzb. der. K. Akad. der Wissensch., 1879, p. 361.

D. 9/29-30. A. 3/21. L. lat. 50. L. tr. 9/25 (in front 10/22.)

Height of body 2 and length of head $3\frac{1}{5}$ in the total length. Snout very short, but narrow and tubular, it is $2\frac{1}{2}$ in the length of the head. The præorbital and præoperculum are toothed on the posterior margin; caudal truncate.

The colour is the same as that of *C. rostratus*, but the bands are a little broader, and of an uniform brown colour without white margin. The ventral fins are black. (Klunzinger.)

No habitat is given of this species by Dr. Klunzinger, but he includes it among his Australian Fishes.

Family. SPARIDÆ.

1158. GIRELLA CARBONARIA. De Vis.

Proc. Linn. Soc., N. S. Wales. Vol. 8, p. 283.

Moreton Bay. Black Bream of the Brisbane Market.

1159. GIRELLA MENTALIS. De Vis.

Proc. Linn. Soc., N. S. Wales. Vol. 8, p. 284.

Moreton Bay.

GENUS PEMILEPTERUS.

In both jaws a single anterior series of cutting teeth, implanted by a horizontal posterior process, behind which is a band of villiform teeth; fine teeth on the vomer, the palatine bones and the tongue. The soft portions of the vertical fins thickly enveloped by minute scales; eleven dorsal and three anal spines. Præoperculum generally denticulated. Scales of moderate size, bony. Seven branchiostegals. Pyloric appendages sometimes in small number, sometimes exceedingly numerous. Air bladder notched posteriorly, and sometimes anteriorly.

Tropical seas.

1160. PEMILEPTERUS INDICUS. Cuv. and Val.

Klunz. Sitzb. der K. Akad. der Wissensch., 1879. Plate 7.

P. tahmel Klunz. Fisch. Roth. Meer. 1, p. 795 (nec. Forsk.)

D. 11/11-12. A. 3/11. L. lat. 66. L. tr. 10-11/20-22.

This species differs from *P. tahmel* Forsk. in the 2nd dorsal, being not nearly so high, and always lower than the middle highest dorsal spines. It is also lower than the anterior highest anal rays, which are not quite as high as the highest dorsal spines. In these respects this species resembles *P. Waigiensis* and *P. lembus*, but these again have always a greater number of dorsal

rays. The height of the body is $2\frac{3}{4}$, the length of the head 5, in the total length; the fifth dorsal spine 3, the highest dorsal ray 4, in the height of the body. The præorbital is naked, in *P. Waigiensis* it is scaled. 30 Ctm.

King George's Sound. (Klunzinger.)

Species 230. *Pachymitopon squamosum*. All. and Macleay.

Dr. Klunzinger suggests that this may be the *Pemilepterus tahmel* of Forsk.

1161. HAPLODACTYLUS MÆANDRATUS. Sol.

Richards Trans. Zool. Soc. III., p. 83. Klunz. Archiv. für Naturg. XXXVIII., 1872, p.

About 18 inches in length, of a brownish olive colour, with anastomosed wavy lines, and small white spots, getting gradually lighter towards, and quite white on the belly. Teeth, numerous in the jaws, in many rows, lanceolate, compressed, rather obtuse, flexile; a few acute ones on the palate, none on the tongue. Pectoral fins ovate, obtuse, short, not reaching to half the length of the abdomen, unarmed, at the base externally rivulose, ashen coloured, immaculate, with 14 rays, the inferior rays covered with a thick skin. Anal fin broadly rivulose, acute, 7 rayed, the first ray simple, the last bipartite. Caudal fin blackish-olive, clouded with paler.

B. 6. D. 16/18. P. 14. A. 1/6. C. 17.

The above is a translation of Dr. Solander's description, who took it at Cape Kidnapper, New Zealand. Sir John Richardson adds, the head is scarcely gibbous over the orbit, the spinous dorsal is higher than the jointed one, and the caudal is truncated with the corners rounded. Re-described at great length by Dr. Klunzinger (loc. cit.)

Hobson's Bay. (Klunzinger.)

1162. LETHRINUS NEBULOSUS. Forsk.

Gunth. Cat. 1, p. 460. Syn. *L. esculentus*. Cuv. and Val.

D. 10/9. A. 3/8. L. lat. 48. L. tr. 6/15.

The height of the body is $3\frac{1}{4}$ in the total length, the length of the head four times. The snout is rather elongate and pointed.

The length of the diameter of the eyes is rather more than the width of the distance between them, and $1\frac{3}{4}$ in the length of the snout; the maxillary reaches to the vertical from the anterior nostril. There is a slight protuberance before the upper anterior angle of the orbit. Canine and molar teeth moderate. Dorsal spines moderate; the fourth rather shorter than the longest ray, and one-third of the length of the head; caudal forked with pointed lobes. Olive, bluish spots on the sides of the head. (Gunther.)

Port Darwin. (Klunzinger.)

1163. *LETHRINUS RETICULATUS*. Cuv. and Val.

Gunth. Cat 1, page 457.

D. 10 9. A. 3/8. L. Lat. 43 (48?) L. tr. 5/17.

The height of the body is $\frac{1}{2}$ in the total length, the length of the head $3\frac{3}{4}$; the snout is pointed, scarcely longer than the diameter of the eye, which is one-third of the length of the head, the maxillary reaches nearly to the vertical from the anterior margin of the eye. Canine teeth distinct and curved; lateral teeth conical, the posterior ones obtuse. Caudal fin emarginate with pointed lobes. Olive or rose coloured; head and body with violet specks, arranged in irregular transverse bands; generally two violet streaks from the eye to the snout; the spinous dorsal marbled with violet; ventral fins violet; the rays of the vertical fins with five cross streaks.

Endeavour River and Port Darwin (Klunzinger.)

Family. CIRRHITIDÆ.

Species 272. *Chilodactylus spectabilis*. Hutton.

Add to synonyms *Chilodactylus asper* Klunzinger.

Archiv. fur. Naturg. XXXVIII., 1872.

Mr. R. M. Johnston (Cat. Roy. Soc., Tasm., 1883) considers *C. Alporti*. a distinct species. In my catalogue I followed Dr. Gunther.

1164. *CHILODACTYLUS NEBULOSUS*. Klunz.

Archiv. fur. Naturg. XXXVIII., 1872. Sitzb. der K. Akad. der Wissensch., 1879, p. 364.

D. 16/24. A. 3/9. P. 8/6. L. lat. 55. L. tr. 5/12.

Height of body $3\frac{2}{3}$ in the total length. Body elliptic; profile of head slightly parabolic; a narrow band of small canine teeth in both jaws; the maxillary reaches to below the anterior margin of the eye. Scales of head small; forehead without process; scales of body slightly rough; lateral line nearly quite straight, its figures form simple obliquely ascending striae. Dorsal spines rather low, not higher than the rays; those of the anal a little higher than those of the dorsal; the anal is rather obliquely truncated. The second simple pectoral ray is the longest, but only one-sixth longer than the longest compound one, and reaches to the extremity of the ventrals, which commence under the middle of the pectorals, and do not reach the anus. Caudal fin deeply emarginate, the outer rays being half again as long as the middle ones. Colour; yellowish with dark nebulous transverse bands, 8-9 in number, which commence broad on the back and extend obliquely forwards, the 3rd, 4th and 5th arch shaped or angular forwards, forming each a longitudinal somewhat continuous stripe. The uppermost runs close along the eye, the second over the pectoral to the lower margin of the eye, the third rather indistinct extends along the belly. The dorsal and caudal fins are nebulous or spotted; margins of all the fins except the pectorals white; ventrals and anal dark. 16 Ctm.

Queenscliff. Port Phillip. (Klunzinger.)

1165. *CHILODACTYLUS MULHALLI*. Macleay.

Proc. Linn. Soc., N. S. Wales. Vol. VII., p. 366.

Port Jackson.

Genus *DACTYLOPHORA*. De Vis.

Proc. Linn. Soc., N. S. Wales. Vol. VIII., p. 284.

1166. *DACTYLOPHORA SEMIMACULATA*. De Vis.

Proc. Linn. Soc., N. S. Wales. Vol. VIII., p. 284.

South Australia.

Genus *PSILOCRANIUM*. Macleay.

Proc. Linn. Soc., N. S. Wales. Vol. VIII., p. 439.

1167. *PSILOCRANIUM COXII*. Macleay.

Proc. Linn. Soc., N. S. Wales. Vol. VIII., p. 440. Pl. XXII
Port Jackson.

Genus *MENDOSOMA*. Gay.

One dorsal fin deeply notched with twenty-two (23) spines; the anal fin of moderate length, the caudal forked; the simple pectoral rays feeble, not exceeding the margin of the fin. Small teeth in the upper jaw only, none in the lower or on the palate. Scales of moderate size; cheeks scaly. Six branchiostegals.

1168. *MENDOSOMA ALLPORTI*. Johnston.

Proc. Roy. Soc., Tasm., 1880, p. 64.

B. 6. D. $23\frac{1}{25}$. A. $3/18$. P. 16. L. lat. 76. L. tr. $5/16$.

"Body elliptical, compressed. Head small, pointed. Cheeks scaly. Height of body is $3\frac{1}{4}$ in the total length; the length of the head five times. Dorsal fin notched; the sixth, seventh and eighth spines are the longest, higher than the longest of the soft dorsal, and about one-fourth the depth of the body. The first soft dorsal is situated in a line vertically drawn through the anus; the third anal spine is longer than the thickish second, and about half the length of the longest dorsal spines. Pectoral rays more or less covered with linear oblong scales, simple rays fine, feeble, all shorter than the immediately superior branched rays. Body scales moderately large anteriorly, decreasing in size towards the tail. Caudal forked. Uniformly blackish grey, with a deeper shade along the back." (Johnston.)

Tasmania.

Family. *SCORPÆNIDÆ*.

Species 299 *Holoxenus cutaneus*. Gunth.

Mr. Johnston (Proc. Roy. Soc. Tasm., 1882, p. 114), describes a fish, known in Tasmania as the Velvet Fish, which he believes to be *H. cutaneus* of Gunther, but he finds some difference in the fin formation. Should it turn out to be a distinct species, he proposes for it the name *Holoxenus Guntheri*.

Family. TEUTHIDIDÆ.

1169. TEUTHIS SUTOR. Cuv. and Val.

Gunth. Cat. III., p. 317.

The height of the body is more than one-third of the total length. Brown, minutely dotted all over with whitish. (Val.)

Klunzinger got this species from Port Darwin, and gives a full description of it in "Sitzb. der K. Akad. Wissensch., 1879, p. 393."

1170. TEUTHIS FUSCESCENS. Houtt.

Gunth. Cat. III. p. 321. Sehleg. Faun. Japon. Poiss., p. 127, pl. 68, f. 1.

The height of the body is contained three times and a half in the total length. Caudal fin scarcely emarginate. Uniform brownish.

Queensland. (Klunzinger.)

Family. BERYCIDÆ.

1171. TRACHICHTHYS MACLEAYI. Johnston.

Proc. Roy. Soc., Tasmania, 1880.

D. 5/13. A. 3/10. V. 8.

"Scales minutely irregularly spiniferous; a series forming the pierced scales of the lateral line (about fifty) larger, and armed with one or two visibly prominent transparent spines. Height of body $2\frac{1}{4}$ in the total length, the length of the head nearly three times. Cleft of the mouth wide, almost vertical. The serrated ventral keel is composed of 13 prominent spiniferous scutes. Upper and lower margins of caudal peduncle armed respectively with 8 and 7 strong adpressed translucent spines. Colour of a uniform bright golden yellow when fresh." Length, $9\frac{1}{2}$ inches.

Mouth of the Derwent River.

Genus. CLEIDOPUS. De Vis.

Proc. Linn. Soc., N. S. Wales, Vol. VII., p. 367.

1172. CLEIDOPUS GLORIA MARIS. De Vis.

Proc. Linn. Soc., N. S. Wales, Vol. VII., p. 368.

Brisbane River.

1173. BERYX MULLERI. Klunz.

Sitzb. der K. Akad. der Wissensch., 1879, p. 359, tab. 3, fig. 1.

B. 8. D. 7/14. A. 4/14. V. 1/7. P. 2/13. L. lat. 47.
L. tr. $5\frac{1}{2}$. 1/12 to $6\frac{1}{2}$ -7. 1/12.

Height of body $3\frac{5}{8}$ and length of head $4\frac{1}{4}$ in the total length. It differs from *B. affinis* in the scales of the lateral line being more numerous as also the rays of the dorsal and anal fins. In most other particulars it is very like *B. affinis*. The projecting chin has in front on each side an obtuse spine and above it a pore. The caudal fin is long and deeply forked, the fork tips narrow, pointed, and of the same length. Lateral line straight. Colour reddish with a blue glimmer (in spirits), especially on the upper part. 25 Ctm.

King George's Sound. (Klunzinger.)

Family. KURTIDÆ.

Klunzinger describes two species *Pempheris Mülleri* and *Pempheris multiradiatus* both from King George's Sound. I cannot make them out to be different from those already described.

Family POLYNEMIDÆ.

1174. POLYNEMUS SPECULARIS. De Vis.

Proc. Linn. Soc. N. S. Wales. Vol. VIII., p. 285.
Brisbane River.

1175. POLYNEMUS TETRADACTYLUS. Shaw.

Gunth. Cat. 1 p. 329. Macl. Proc. Linn. Soc., N. S. Wales,
Vol. VIII., p. 203.

D. $8\frac{1}{13-15}$. A. 2/16-17. L. lat. 73-85.

Four pectoral appendages, not or scarcely reaching beyond the tip of the ventral fin. Pyloric appendages in immense number.

Hab. Mouth of the Burdekin River.

1176. POLYNEMUS SHERIDANI. n. sp.

D. $7\frac{1}{13}$. A. 2/11. L. lat. 62.

Oblong, compressed. Height of body one-fourth of the length exclusive of caudal fin; length of head slightly more. Eye large, lateral, near the snout, with a broad depressed interorbital space,

showing a slightly concave profile; two nostrils close together in front of the upper part of the orbit; snout roundly pointed, considerably overlapping the mouth; maxillary large and triangular, appearing first under the hinder margin of the eye and extending far behind it. Præoperculum serrated on the posterior limb, and without a spine near the angle. Five pectoral appendages, the two upper ones extending far beyond the tips of the ventrals. The first dorsal fin is vertically in advance of the root of the ventrals; the first spine is very strong, and equal in height to $\frac{3}{4}$ the length of the head, the second is a little higher, the others become gradually lower; all are feeble except the first, and none of them are filamentose. The distance between the dorsals is more than the length of the base of the first; the second has a falcate appearance like the anal, and both are scaly and fleshy. The caudal fin is long, forked, scaly, and slightly filamentose. The distance between the origin of the ventrals and that of the anal, exactly equals the length of the head.

The scales are of moderate size, resembling somewhat those of the Mullet (*Mugil*), the lateral line is straight. The coloration is bluish-silvery towards the back, and whitish towards the belly; the dorsal, anal and caudal fins are blackish; the pectorals, ventrals, and pectoral appendages whitish; each line of scales shows a more or less distinct longitudinal streak. Length, 26 inches.

Mary River, Queensland.

I am indebted to the Hon. B. Sheridan for the specimen of this fish here described. It is abundant at some seasons in the tidal waters of the Mary, and has been known to attain a weight of 100 lbs. It is highly valued as a food-fish.

Family. SCIÆNIDÆ.

Genus UMBRINA. Cuv.

Body oblong; muzzle convex, with the upper jaw overlapping the lower; a short barbel under the mandibular symphysis. Two dorsals, the first with nine or ten flexible spines; the anal fin

with one or two ; scales moderate ; pseudobranchiæ. The air bladder with or without appendages or absent. Pyloric cœca in small number.

All Seas and Mouths of Rivers.

1177. UMBRINA MULLERI. Klunz.

Sitzb. der K. Akad. der Wissensch., 1879.

D. $10\frac{1}{25}$. A. $2\frac{1}{7}$. L. lat. supra. 63 infra. 55. L. tr. $6\frac{1}{16}$.

Height of body 4 and length of head $4\frac{1}{6}$ in the total length. Like *U. Russellii* and *Dussumieri*, but with a shorter barbel on the chin and a different fin formula. The snout is round and projecting. The barbel is very short not $\frac{1}{3}$ of the diameter of the eye, with a pore at its base and around it four others ; there are also several pores on the snout ; præoperculum rounded without hard teeth. Teeth villiform in rows, some a little larger on the outer row of maxillaries ; 2nd and 3rd dorsal rays nearly equal, flexible ; 2nd anal ray much larger than the 1st. The maxillary reaches to behind the middle of the eye ; the posterior rays of the dorsal a little shorter than the others, and still shorter than those of the anal. The caudal fin is obtusely rhombic. Colour above, dark, on the ventral side silvery ; on the ventral side of the head, and snout and cheeks this colour is sharply circumscribed so that only the lower margin of the præorbital is silvery. All the fins are dark, the dorsal especially, the membranes densely speckled. 20 Ctm.

Queensland. (Klunzinger.)

1178. CORVINA AUSTRALIS. Gunth.

Rep. Shore Fishes. Voy. Challenger. Part 6, p. 33.

Corvina argentea. Macl. Proc. Linn. Soc., N. S. Wales. Vol. VIII., p. 204.

Mouth of Burdekin and Mary Rivers. Queensland.

1179. CORVINA MILES. Cuv. and Val.

Gunth. Cat. 2 p. 300.

D. $9-10\frac{1}{29-30}$. A. $2\frac{1}{7}$.

The height of the body is nearly equal to the length of the head, and one-fourth of the total ; the diameter of the eye equals the

length of the snout, and is one-fourth of the length of the head. The upper jaw overlapping the lower. The band of maxillary teeth with an outer row of stronger ones. The second anal spine very strong and as long as the first ray; caudal pointed. Above greyish green, sides and belly silvery; dorsals minutely dotted with brown, and with a black upper margin, in front of each dorsal ray a small brownish spot; ventrals whitish; the other fins with a blackish margin.

Queensland. (Klunzinger.)

Sciæna Mulleri Steind, is probably one of the *Sciænidæ* already mentioned, but I cannot find any description of it.

Family. CARANGIDÆ.

1180. *CARANX IGNOBILIS*. Forsk.

Caranx sanson. Rupp. Gunth. Cat. 2, p. 447.

D. $8/_{19-20}^1$. A. $2/_{16-17}^1$. L. lat. 30.

The teeth of the upper jaw form a villiform band, with an outer series of stronger ones; those of the lower one in a single series. The height of the body is 3 to $3\frac{1}{2}$ in the total length. Breast scaly; the lateral line is bent anteriorly, the width of the arch being equal or nearly equal, to the length of the straight portion; the latter begins in the vertical from the seventh dorsal ray. The plates are very well developed and distinct from the beginning of the straight portion. The lower jaw is longer than the upper, and the maxillary reaches beyond the vertical from the centre of the eye. Opercular spot none.

Port Darwin and Cleveland Bay. (Klunzinger.)

1181. *CARANX COMPRESSUS*. Macleay.

Proc. Linn. Soc., N. S. Wales, Vol. VIII., p. 204.

Lower Burdekin, salt water.

1182. *CHORINEMUS SANCTI-PETRI*. Cuv. and Val.

Gunth. Cat. 2, p. 473.

D. $7/_{20-21}^1$. A. $2/_{18-19}^1$. Vert. 10/16.

The height of the body is nearly equal to the length of the head, and one-fifth of the total. The maxillary is triangular and

flat posteriorly, and reaches beyond the vertical from the centre of the eye. The length of the intermaxillary is contained one and two-third times, or twice in that of the head. The snout, in mature fishes, is nearly twice as long as the diameter of the eye. A series of rounded indistinct blackish spots above the lateral line, sometimes a second row beneath, sometimes both absent. An indistinct blackish streak from above the eye to the shoulder. Top of the dorsal black.

Port Jackson (Macleay), Port Denison (Klunzinger.)

1183. *EQUULA SPLENDENS*. Cuv. and Val.

Gunth. Cat. 2, p. 501. Kner Novara reise, p. 168.

D. 8/15. A. 3/14. Vert. 10/14.

The height of the body is $2\frac{1}{4}$ to $2\frac{3}{8}$ in the total length, the length of the head four times. The upper profile is much more convex than the lower. A pair of small spines above the anterior margin of the orbit; the cavity on the head is about twice as long as broad. The lower præopercular margin is finely serrated, and its length is $1\frac{1}{4}$ in that of the mandible, the latter is slightly concave, and ascends at an angle of about 35° . The length of the second dorsal spine is three-quarters of that of the head. Scales small. A black blotch on the spinous dorsal.

Port Denison. (Klunzinger.)

Species 384. *Equula edentula*. Bl.

I have no doubt that *E. coballa*. Cuv. and Val., mentioned by Dr. Klunzinger as coming from Port Darwin and Cleveland Bay, is identical with *E. edentula*.

Equula Nova Hollandie, Sleindachner from Cleveland Bay and *Parequula bicornis* of the same author from Hobson's Bay, Victoria, are both unknown to me and I have never seen the descriptions.

Gen. LACTARIUS. Cuv. and Val.

Body oblong, compressed, covered with cycloid scales of moderate size; cleft of the mouth wide, oblique, with the lower jaw prominent. Teeth in the jaws small, *with one or two pairs of strong canines*; teeth on the vomer and the palatine bones.

Præopercular margin entire. The first dorsal with seven or eight feeble spines, continuous; the second and the anal are more developed and scaly, without detached finlets. Three anal spines, continuous with the fin. Lateral line not armed. Head with muciferous cavities. Branchiostegals seven; air bladder bifurcate anteriorly and posteriorly, the posterior branches united together behind the hæmal spine. Pyloric appendages in small number.

East Indian Seas.

1184. LACTARIUS DELICATULUS. Bl. Schn.

Gunth. Cat. 2, p. 507. Cuv. and Val. 9, p. 238. Pl. 261.

D. 7-8/₂₁₋₂₂¹. A. 3/25-26. L. lat. 74. Cœc. pylor. 63. Vert. 10/14.

The cleft of the mouth is very oblique and the lower jaw very prominent. Præorbital much narrower than the maxillary. The interocular space is convex, and equal in width to the orbit. Coloration uniform; sometimes with a black opercular spot.

Queensland. (Klunzinger.)

Family. NOMEIDÆ.

Genus GASTEROCHISMA. Richards.

Body oblong, compressed, covered with cycloid scales of moderate size; *cleft of the mouth wide*. Lateral line without any armature. The first dorsal with seventeen spines; the second and anal with the posterior rays detached, forming finlets, no separate anal spines. The ventral is exceedingly long and broad, and can be completely concealed in a deep fissure on the abdomen. Teeth conical, small, forming single series in the jaws, teeth on the vomer and the palatine bones.

A New Zealand genus.

1185. GASTEROCHISMA MELAMPUS. Richards.

Voy. Ereb. and Terr., p. 60. Gunth. Cat. 2, p. 387.

B. 7. D. 17/1/10 /VI. V. 1/5. A. 2/10 /VI. L. lat. 64. L. tr. 27.

Ventrals black, one third of the total length. The maxillary reaches somewhat beyond the vertical from the centre of the eye.

Mouth of the Derwent. (Johnston.) Length, 39 inches.

Family. SCOMBRIDÆ.

1186. SCOMBER JANESABA. Bleek.

Gunth. Cat. 2, p. 359.

D. 9-10 $\frac{1}{11}$ /V-VI. A. $1/\frac{1}{10-11}$. /V-VI.

Scales small, conspicuous. The height of the body is $6\frac{1}{3}$ - $6\frac{2}{3}$ in the total length, the length of the head four times; the diameter of the eye $3\frac{1}{3}$ - $3\frac{1}{2}$ in the latter. Back with greenish-violet spots and waving transverse streaks; sides and belly silvery. An air bladder.

Hobson's Bay. (Klunzinger.)

1187 SCOMBER KANAGURTA. Russ.

Gunth. Cat. 2 p. 360. Syn. *S. loo*. Cuv. and Val. *S. chryzozonus*. Rüpp. *S. microlepidotus*. Rüpp. *S. moluccensis*. Bleek. and *S. reani*. Day.

D. 9-10 $\frac{1}{11}$ /V. A. $1/\frac{1}{11}$ /V.

Scales small. The height of the body is four times in the total, length of the head $3\frac{1}{3}$. Above uniform greenish, on the sides and belly silvery, sometimes with longitudinal stripes on the back and sides, and with four or five blackish spots along the base of the spinous dorsal fin.

Queensland. (Klunzinger.)

1188. SCOMBER TAPEINOCEPHALUS. Bleek.

Gunth. Cat. 2 p. 361. The Tunny of the Mediterranean.

D. 11-11 $\frac{1}{11}$ /V-VI. A. $1/\frac{1}{11}$ /V-VI

Scales small, conspicuous, those of the pectoral region larger than the others. The height of the body is seven times in the total length, the length of the head $4\frac{1}{3}$. Teeth conspicuous. Back and sides with greyish violet spots and waving transverse streaks. No air bladder.

Hobson's Bay. (Klunzinger.)

1189. THYNNUS THYNNUS. L.

D. $14/\frac{1}{13}$ /IX. A. $2/12$ /VIII. Vert. 16/23.

The height of the body is $4\frac{1}{4}$ in the total length, the length of the head four times. The pectoral reaches nearly to the end of

the spinous dorsal; dorsal spines rather feeble. The posterior margin of the præoperculum is somewhat shorter than the inferior. Above dark bluish; beneath greyish, spotted with silvery.

Tasmania. (Johnston)

1190. *CYBIUM SEMIFASCIATUM*. Macleay.

Proc. Linn. Soc., N. S. Wales, Vol. VIII., p. 205,
Lower Burdekin, in salt water.

Family. TRACHINIDÆ.

1191. *PERCIS COXII*. Ramsay.

Proc. Linn. Soc., N. S. Wales, Vol. VIII., p. 179.
Loc. Port Jackson.

1192. *SILLAGO SIHAMA*. Forsk.

Gunth. Cat. 2, p. 243. Bleek. Atl. Ichth. Sillag., tab. 1, fig. 4.
D. $11\frac{1}{20}$. A. $1\frac{1}{22-23}$. L. lat. 70. L. tr. $4\frac{1}{11}$. Cœc. pyl. 2.
Vert. $14\frac{1}{20}$.

The height of the body is one-sixth of the total length, the length of the head one-fourth. The space between the eyes is one-half of the length of the snout. The ventral spine feeble. Coloration uniform brownish yellow, with a silvery lateral streak; fins transparent, reddish-violet.

Queensland. (Klunzinger.)

Genus. *PSEUDOCROMIS*. Rüpp.

Head and body rather compressed, more or less elongate; cleft of the mouth slightly oblique, with the lower jaw longest; eye lateral. Scales of moderate size, ciliated; lateral line interrupted. One dorsal with a few spines anteriorly; ventrals thoracic; the lower pectoral rays branched. Jaws with cardiform teeth, anteriorly with canines; vomer and palatine bones toothed. Præoperculum entire. Six branchiostegals; the gill-membranes joined inferiorly; pseudobranchiæ and air bladder present; pyloric appendages none.

Indian Seas.

1193. *PSEUDOCROMIS MULLERI*. Klunz.

Sitzb. der K. Akad. der Wissensch, 1879, p. 370.

D. $3\frac{1}{23-24}$. A. $3\frac{1}{13}$. P. 18. V. $1\frac{1}{5}$. L. lat. 36. L. tr. e. 14.

Height of body and length of head $4\frac{1}{2}$ in the total length. In front of both jaws two strong canine teeth, and strong canine teeth also on the sides; there are besides narrow bands of small canine teeth on jaws, vomer and palatine bones; 3 to 4 rows of scales on the cheeks; 3 spines on the operculum. Præorbital and præoperculum without serration. All the fins with long rays, particularly the dorsal, the middle rays of which are as high as the body. The caudal fin is rounded; the ventrals extend to the anal fin; the pectorals are a little shorter. The lateral line reaches to the 17th dorsal ray. Colour (in spirits) blackish brown; head with many small blue spots. $6\frac{1}{2}$ Ctm.

Port Darwin. (Klunzinger.)

This fish seems to resemble very closely my *Cichlops filamentosus* species 423 of catalogue.

Family. BATRACHIDÆ.

1194. BATRACHUS PUNCTATULUS. Ramsay.

Proc. Linn. Soc., N. S. Wales, Vol. VIII., p. 177.

Torres' Straits.

1195. BATRACHUS MULLERI. Klunz.

Sitzb. dar K. Akad. der Wissensch., 1879. Tab. IX., fig 1.

D. 3/20-21. A. 17. Height 5, and head $3\frac{1}{2}$ in total length.

Like *B. diemensis*. No scales, body near the pectoral fins with reticulate folds of skin, 2 spines on the operculum and two on the suboperculum, the lowest small but distinct. Teeth villiform in bands on jaws, vomer and palatines. The maxillary extends to below the middle of the eye. Snout short, transversely vaulted. Forehead between the eyes broad, flat, much smaller than the orbit. The orbital cirrus very minute, as also those of the head and back. Colour brownish with brown spots and a few larger dark specks, particularly one under the middle of the second dorsal fin. Head and forepart of back with thickly set alternately brown and lighter longitudinal stripes. 14 Ctm.

Port Darwin, (Klunzinger.)

Genus. PORICHTHYS.

Head broad, depressed; body subcylindrical anteriorly and compressed posteriorly; skin naked, with many series of very distinct pores. A canine tooth on each side of the vomer. Operculum with a single spine. The spinous dorsal formed by two very small spines. Gill-opening not narrow, extending downwards to the side of the isthmus. Gills three, pseudobranchiæ none, branchiostegals six; air bladder more or less deeply divided into two lateral parts. Pyloric appendages none.

Coasts of America.

1196. PORICHTHYS QUEENSLANDIÆ. De Vis.

Proc. Linn. Soc., N. S. Wales. Vol. VII., p. 370.

Queensland.

Family. PEDICULATI.

Species 430 and 431. *Brachionichthys hirsutes* and *B. levis*, are considered by Mr. Johnston. (Proc. Roy. Soc., Tasmania, 1882, p. 121) to be identical.

Family. COTTINA.

1197. PLATYCEPHALUS SPECULATOR. Klunz.

Archiv. fur Naturg., XXXVIII., 1872. Sitzb. der K. Akad. der Wissensch., 1879, tab. IV, fig. 1.

D. 1/7-12. A. 13. P. 17. L. lat. 85.

Height of body 14 times in the length, and length of head 4 times in the total length, and $3\frac{1}{2}$ times its height and $1\frac{1}{2}$ times its breadth. Resembles *P. insidiator*, but with the eye much larger, forehead and præorbital narrower, and parallel supraorbital crests, which in *P. insidiator* converge backwards. The point of the tongue is in this species spatulate and prominent, in the other species truncate. It differs also in the number of the dorsal rays, being 12 in this as against 13 in *P. insidiator*. The lower præopercular spine is a little longer than the upper. The colour resembles that of *P. insidiator*, the fins have a rather greener hue and not brown-spotted.

Hobson's Bay. (Klunzinger.)

1198. PLATYCEPHALUS MULLERI. Klunz.

Sitzb. der K. Akad. der Wissensch, 1879, tab. IV., fig. 2.

D. $1\frac{1}{8}/12$. A. 12. L. lat. 100. L. tr. 35. Head 4, height $9\frac{1}{2}$ in the length.

Most like *P. inops*. Head broad and flat, particularly in front. Teeth villiform in a broad band in the upper jaw, narrower in the lower, vomerine teeth in two longitudinal stripes separated by a groove. Eye rather small. Ridges on head distinct but not prominent, with a few recumbent spines. A larger spine in front of the inner and upper angle of the eye. No spine on the præorbital. Only one of the spines of the præoperculum properly developed (the upper), and that is short, the inferior one is merely a small obtuse tubercle. Lateral line not conspicuous. Colour grey, the scales mostly with darker specks. Head above darker, brown marbled. Belly white or yellowish. Rays of dorsal fin with darker rings; the membrane light; pectoral fins light; ventrals above dirty brownish-grey; caudal with white and dark speckled rays, the lower margin and the upper extremity black.

Dr. Klunzinger gives no locality for this species.

1199. PLATYCEPHALUS MORTONI. Macleay.

Proc. Linn. Soc., N. S. Wales, Vol. VIII., p. 206.

Lower Burdekin. Salt water.

1200. PLATYCEPHALUS SEMERMIS. De Vis.

Proc. Linn. Soc., N. S. Wales, Vol. VIII., p. 285.

South Australia.

1201. LEPIDOTRIGLA MULHALLI. Macleay.

Proc. Linn. Soc., N. S. Wales, Vol. VIII.

Outside Heads of Port Jackson.

Family. GOBIIDÆ.

1202. GOBIUS NEBULOPUNCTATUS. Cuv. and Val.

Gunth. Cat. III., p. 20.

D. $6\frac{1}{6}$. A. $1\frac{1}{8}$. L. lat. 85.

“The height of the body is contained six times in the total length, the length of the head four times and two-thirds. The head is nearly as broad as high, its height being more than one-half its length. The diameter of the eye is one-fourth of the length of the head; it is situated entirely in the anterior half of the head, interorbital space very narrow. Snout as long as the eye, with the cleft of the mouth oblique, and with the jaws equal in length. The teeth in the jaws form a band, those of the outer series being somewhat enlarged. Dorsal fins separated from each other but close together; the first is lower than the second, the height of which equals that of the body. The upper pectoral rays silk like; caudal rounded; the anal is much higher posteriorly than anteriorly; its height being equal to that of the second dorsal fin. Greenish, clouded with brownish; head and body with longitudinal series of numerous white dots; fins uniform blackish, the first dorsal edged with white superiorly.”

King George's Sound and Victoria. (Klunzinger.)

1203. GOBIUS TAMARENSIS. Johnston.

Proc. Roy. Soc. Tasmania, 1882, p. 120.

B. 4. D. $6\frac{1}{2}$. A. $1\frac{1}{8}$. L. lat. 32. P. 16-18. P. 18-19.

Height of body seven times in total length, the length of head four times, and the greatest breadth behind orbits six times. Head depressed; eyes approximating towards top of head, looking upwards and outwards. Snout obtuse, convex, one and a-half times breadth of eye, and contained three and a-half times in length of head; interorbital space, half the breadth of the eye; head and nape naked. Colour, when alive, greyish. Body and vertical fins marbled with very fine reddish-brown dots. The extremity of the rays of second dorsal and anal fins blackish. There are eleven scales between the anal and the first ray of the second dorsal fin; caudal fin rounded; dorsal and anal fin rays one and a-half times as long as the snout, when stretched they do not reach the caudal by a distance greater than their own length.”

Abundant in the Tamar River. Length from 2 to $3\frac{3}{4}$ inches.

Mr. Johnson remarks that the species seems to closely resemble *G. lateralis*. Macleay.

1204. ELEOTRIS SELHEIMI. Macleay.

Eleotris planiceps. Macleay. Proc. Linn. Soc., N. S. Wales. Vol. VII., p. 69.

Palmer River, N. Queensland.

The specific name *planiceps* has been previously used by Count Castelnau for a species (525), from the Norman River.

1205. ELEOTRIS APOROCEPHALUS. Macleay.

Eleotris planiceps. Macleay. Proc. Linn. Soc., N. S. Wales. Vol. VIII., p. 206.

Lillesmere Lagoon. Burdekin River.

This I think is probably the species which Klunzinger refers to *E. porocephaloides*. Bleeker.

1206. ELEOTRIS CYPRINOIDES. Cuv. and Val.

Gunth Cat. III., p. 118. Klunz. Sitzb. der K. Akad. der Wissensch., 1879, tab. V. fig. 2.

D. $6\frac{1}{9}$. A. 1/9-10. L. lat. 26-28.

Head entirely scaly. Body compressed, its height being nearly equal to the length of the head, and one-fifth of the total; the diameter of the eye is rather more than one-fourth of the length of the head, equal to the width of the interorbital space, and longer than the snout. Snout pointed, with the lower jaw longest; the maxillary does not extend to the vertical from the anterior margin of the eye. Teeth in villiform bands. Scales finely ciliated. Brownish-olive, with a blackish longitudinal band from the upper part of the base of the pectoral, below the lateral line to the caudal; dorsal and caudal fins with brown spots.

Murray River. (Klunzinger.)

1207. ELEOTRIS RETICULATUS. Klunz.

Sitzb. der K. Akad. der Wissensch., 1879, p. 385. Tab. 4, fig 3.

D. $6\frac{1}{9}$. A. 1/10. L. lat., 28-30. L. tr. 10.

Height of body and length of head 5 times in the total length. The caudal peduncle equals the length of the head. Colour yellowish or brownish, the dark margins of the scales giving the appearance of reticulate markings. Fins dark, marbled or speckled.

On the base of the caudal fin in its lower half, there is a darker spot, generally also one above the base of pectoral fin. Scales fine and equally toothed. 4 Ctm.

Port Darwin. (Klunzinger.)

1208. *ELEOTRIS MACRODON*. Bleek.

Gunth. Cat. III., p. 129. Klunz. Sitzb. der K. Akad. der Wiss., 1879, p. 385.

D. 6/10-11. A. 9. Lat. 90-100. L. tr. 30.

Thirty-three longitudinal series of scales between the origin of the posterior dorsal and the anal, sixty transverse ones between the anterior dorsal to the snout. The height of the body is contained four times and two-thirds or five times in the total length, the length of the head four times and a fourth. Head broad, depressed, with the snout obtuse; the lower jaw is somewhat prominent, and the maxillary extends to below the middle of the eye. Teeth of the outer series enlarged. The diameter of the eye is one-ninth of the length of the head, one half of that of the snout, and one-third of the width of the interorbital space. A small barbel on each side of the upper jaw. The head is covered with minute scales, the snout is naked. Dorsal and anal fins much lower than the body; the greater portion of the caudal is scaly; its length is about one seventh of the total. Brownish-olive (in spirits); dorsal and caudal fins dotted with brown, the other fins uniform. A blackish (in life reddish-brown) ocellus, edged with whitish, on the upper part of the base of the caudal.

Port Darwin. (Klunzinger.)

1209. *ARISTEUS CAVIFRONS*. Macleay.

Proc. Linn. Soc., N. S. Wales, Vol. VII., p. 70.

Palmer River.

Genus *LEME*. De Vis. Group *amblyopina*.

Proc. Linn. Soc., N. S. Wales, Vol. VIII., p. 286.
Queensland.

1210. *LEME mordax*. De Vis.

Proc. Linn. Soc., N. S. Wales, Vol VIII., p. 286.

1211. *CALLIONYMUS ACHATES*. De Vis.

Proc. Linn. Soc., N. S. Wales, Vol. VII., p. 620.
Queensland.

1212. *CALLIONYMUS PHASIS*. Gunth.

Zool. Voy. Challenger. Part 6., p. 28. Pl. 15, fig. C.
D. 4/9. A. 7. C. 10.

Præopercular spine considerably shorter than the eye, terminating in three curved spines, of which the two anterior are the larger, and directed upwards. Dorsal spines prolonged; second dorsal high; caudal long; the ventral fin extends somewhat beyond the origin of the anal. Gill-opening reduced to a small foramen on the upper side of the neck; lateral line single. The length of the head is one-third of the total length without caudal, or one-fourth with that fin. Eye very large, a little longer than the snout, one-third of the length of the head. Reddish-white with irregular broad blackish cross-bands on the back; first dorsals blackish, with some whitish zig-zag lines; second, variegated with greyish; the other fins white. Length of specimens 4 inches."

Twofold Bay. 120 fathoms.

1213. *CALLIONYMUS LUNATUS*. Schleg.

Gunth. Cat. 111, p. 146. Zool. Voy. Challenger. Part 6, p. 28.
D. 4/9. A. 9. V. 1/. P. 17. C. 10.

About 8 inches in length. The orifices of the gills, the nostrils, the pectorals, and ventrals as *C. Valencienni*. The superior border of the orbit is prominent, and the space between the eyes very narrow and concave. Top of the head naked and rough. The osseous production of the præoperculum has a superior spine at right angles to a larger one. The two dorsals are of about equal height which is higher than that of the body; but the last three rays of the 2nd dorsal are longer than the others, the 1st spine of the 1st dorsal is twice the length of the others, and the membrane of the last dorsal spine is continued to the base of the 1st ray of the 2nd dorsal. The anal is one-third lower than the dorsals and its rays, with the exception of the last, are simple. The

caudal is of elongate form, its length about $3\frac{1}{2}$ in the total length. The pectorals are a little conical. Colour pale reddish brown, becoming white on the belly. The root of the caudal and the ventrals inclining to a deep brown. The anal has large blotches and the ventrals longitudinal streaks of pale brown. The membrane which unites the last dorsal spine to the back has a large black blotch bordered towards the base with white.

Port Jackson. (Gunther.)

Family. TRICHONOTIDÆ.

Genus. HEMEROCETES. Cuv. and Val.

Head depressed, pointed, trunk cylindrical, tail slightly compressed; cleft of the mouth wide, nearly horizontal, with the upper jaw longest; eyes rather large, directed upwards. Scales of moderate size, cycloid; lateral line continuous. One dorsal; all the rays articulated and not branched: ventrals jugular with one spine and five rays. Gill-opening very wide, with the gillmembranes scarcely united below the throat; seven branchiostegals; pseudobranchiæ. Villiform teeth in both the jaws, on the vomer, and on the separated pharyngeal bones; none on the palatines. Air-bladder and pyloric appendages none. A New Zealand genus.

1214. HEMEROCETES HASWELLI. Ramsay.

Proc. Linn. Soc., N. S. Wales, Vol. VI., p. 575.

Port Jackson. Dredged in 10 fathoms at North Head

Family. BLENNIIDÆ.

1215. SALARIAS MULLERI. Klunz.

Sitzb. der K. Akad. der. Wissensch., 1879, p. 388.

D. 12/20. A. 23-24.

Height 8, head $5\frac{1}{2}$ in the total length. Rather elongate, low, crested on the neck; orbital cirrus simple, shorter than the eye; profile of head perpendicular or even sloping inwards towards the snout. No canine teeth. Dorsal fin deeply notched; the 1st dorsal a little lower than the 2nd, a little over the height of the body, and as high as the anal fin; the second dorsal connected with the caudal fin which is rounded. Colour brownish,

in the middle of the body numerous narrow transverse bands with dark margins, not quite reaching either the back or the belly, and becoming less distinct and somewhat undulating posteriorly. On the anterior part of the body there are some bluish transverse bands convex anteriorly. Belly and side of breast colourless. Crest of nape with black margin. Dorsal fin, with numerous oblique bluish streaks, anal with blue spots or streaks towards the margin in about four rows. Caudal with numerous white or blue spots. 7 Ctm.

Affinity to *S. geminatus*. All. and Macleay.

Hobson's Bay. (Klunzinger.)

1216. SALARIAS PUNCTILLATUS. Klunz.

Sitzb. der K. Akad. der Wissensch., 1879, p. 389.

D. 12/20. A. 20. V. 2.

Height 5 and head 6 times in the total length.

Like *S. myx*. Cuv. and Val. Profile of head in front vertical. Short small cirrhi round the eye, nostrils, and nape, those round the eye bifid, and about half the diameter of the eye, the others simple. Dorsal fin without notch, the first ray is only $\frac{1}{3}$ higher than the last; it is connected with the caudal fin; the anal fin is not. The caudal is rounded. The lateral line is bent in front and terminates under the 8th dorsal ray. Crest of nape distinct but very low. Forehead nearly flat. Colour (in spirits) brownish, with indistinct darker or lighter specks which form transverse bands. The belly and breast whitish; dorsal fin greenish, indistinctly spotted; pectoral, anal and caudal fins monochromatic greenish. On the head there are white and blue spots and lines, and on the back posteriorly there are a few scattered small spots. 10 Ctm.

Port Darwin. (Klunzinger.)

Dr. Klunzinger alludes to the similarity of this to *S. Spaldingii* mihi; they are I think distinct.

1217. CLINUS MAMORATUS. Klunz.

Archiv. f. Naturg. XXXVIII., 1872. Sitzb. der K. Akad. der Wissensch., 1879.

D. 44. A. 30. P. 13. V. 3. C. 10.

Height (in front of the anus) 5 times in the length, length of head six times. Body elongate, compressed: profile of head parabolic; snout obtuse, short, teeth in both jaws, arranged in a band in front, and on the sides in a row short and blunt. Teeth on the vomer, none on the palatines; the maxillary reaches to below the middle of the eye; space between the eyes narrower than the orbit. Head and occiput nearly naked; body covered with small indistinct round scales. Lateral line only visible on the anterior part of the body. The dorsal fin begins over the operculum, and gets higher towards the caudal with which it is connected with a membrane; anal fin similar, also with simple flexible rays.

Colour brown with darker spots, marbled, throat sometimes white speckled; fins black speckled, marbled with some lighter spots; pectoral fins lighter with dark spots.

Allied to *C. cottoides* and *despicillatus*. Length, 15 Ctm.

Port Phillip. (Klunzinger.)

1218. CRISTICEPS TRISTIS. Klunz.

Archiv. f. Naturg., 1872, p. 31. Sitzb. der K. Akad. der Wissensch., 1879, p. 392.

D. 3/19/5. A. 2/24. P. 11. V. 3. C. 9.

Height $5\frac{1}{2}$ in length. Body elongate, very much compressed. Profile of head nearly straight. Snout pretty long; lips much developed: jaws equal; on both and on the vomer a band of small hair-shaped teeth, broader in front of the præmaxillary. The maxillary reaches to below and rather behind the middle of the eye. Orbital cirrus over the middle of the eye, flattish and fringed; nasal cirrus small, tubular and with a flat flap above. Head and nape nearly naked and smooth. The first part of the dorsal fin is on the occiput over the præoperculum, it is higher considerably than the rest of the fin, with which it is connected by a membrane. The dorsal rays are pretty strong, and the fin membranes form a flap behind their apices; the fin membrane extends from the last dorsal ray to the base of the caudal fin. The anal fin commences under the 9th ray of the 2nd division of the

dorsal fin ; it is lower than the dorsal, and the fin membrane does not nearly reach the caudal. The pectoral fin is short and rather high, it extends to the anal fin ; the middle ray of the ventrals also reaches to the anal. Scales small but distinct, leathery, shining, etenoid, only slightly imbricate. Lateral line marked with simple striæ ; it ascends from the upper margin of the branchial aperture, then is straight to the 8th dorsal spine, then descends abruptly and then runs straight to the tail ; caudal fin narrow and slightly rounded. Colour monochromatic dark brown. 16 Ctm.

Murray River. (Klunzinger.)

Family. SPHYRÆNIDÆ.

1219. SPHYRENA STRENUA. De Vis.

Proc. Linn. Soc. N. S. Wales. Vol. VIII., p. 287.

Moreton Bay.

Family. ATHERINIDÆ.

1220. ATHERINA ELONGATA. Klunz.

Sitzb. der K. Akad. der Wissensch., 1879, p. 394, Tab. III. fig. 4.

D. $6\frac{7}{6}$. A. 1/11-12. L. lat. 40. L. tr. 7.

Nearly related to *A. pinguis* and *valenciennesii*. The body however is larger and the rays more numerous. The vomerine teeth are present. The 1st dorsal fin commences just behind the pectorals ; the anal is a little longer than the 2nd dorsal, but terminates exactly opposite to it. Apophysis of the maxillary very short. Colour as usual in the genus, the silvery band is on the third line of scales. Fins hyaline. 7-8 Ctm.

King George's Sound. (Klunzinger.)

1221. ATHERINICHTHYS ESOX. Klunz.

Archiv. f. Naturg., 1872, p. 34.

D. $7\frac{1}{11}$. A. 1/12. P. 12. L. lat. 45. L. tr. 8.

Height 7 times in the length, length of head $3\frac{3}{4}$. Elongate, lanceolate shaped, rather compressed ; profile straight ; snout very prominent, pointed. Maxillary very protractile ; head flat above.

Gape of mouth very oblique, extending only to the middle of snout. The narrow sword shaped upper jaw reaches to below the middle of the eye. A narrow stripe of small but distinct teeth in both jaws; the vomer is toothed, but not the palatines. Scales large, no distinct lateral line; spines of 1st dorsal fin weak and short; the 2nd dorsal and anal alike; the pectoral does not reach quite to under the 1st dorsal spine. The ventrals are inserted before the point of the pectorals, and extend nearly to the last dorsal spine, but not nearly to the anus. Caudal fin forked. Colour above dark, beneath silvery, a broad silvery blue band along the middle of the body. Length, 14 Ctm.

Port Phillip. (Klunzinger.)

1222. *ATHERINICHTHYS MACULATUS*. Macleay.

Proc. Linn. Soc., N. S. Wales, Vol. VIII., p. 207.

Lillesmere Lagoon, Burdekin.

Family. MUGILIDÆ.

1123. MUGIL TADE. Forsk.

Mugil planiceps Cuv. and Val. Gunth. Cat. III., p. 428.

D. $4\frac{1}{3}$. A. $3\frac{1}{9}$. L. lat. 33-35. L. tr. 11. Cœc. pylor. 5.

The greatest depth of the body is nearly equal to the length of the head, and one-fifth of the total; the depth of the body below the origin of the spinous dorsal is contained twice and a third in the distance of the snout from the dorsal fin. The least depth of the tail is a little more than one-half the length of the head. Lips thin; the maxillary is bent downwards behind the angle of the mouth, its extremity not being covered by the præorbital. The space at the chin, between the mandibular bones, is cuneiform. Eye with a narrow adipose membrane, which does not extend on to the pupil. There are twenty scales between the snout and the spinous dorsal. The eight, the tenth, or eleventh, the twenty-second or twenty-third scales of the lateral line correspond to the extremity of the pectoral, and to the origin of the two dorsal fins. The soft vertical fins scaly; the origin of the dorsal is in the vertical from the third soft anal ray.

Cleveland Bay. (Klunzinger.)

1124. MUGIL LONGIMANUS. Gunth.

Cat. III., p. 428.

D. $4\frac{1}{2}$. A. 3.9. L. lat. 35.

The height of the body is contained four times and two-thirds or five times in the total length; the length of the head five times or five times and a fourth. The width of the interorbital space is about one-half the length of the head. Eye with an adipose membrane anteriorly and posteriorly. Snout very convex, with the upper lip rather thick. The maxillary is entirely hidden when the mouth is closed. The two dorsal fins and the anal are nearly equal in height; pectoral about as long as the head; caudal truncated."

Cleveland Bay. (Klunzinger.)

1125. MUGIL GELATINOSUS. Klunz.

Archiv. fur Naturg., 1872. Sitzb. der K. Akad. der Wissensch, 1879, Tab. VIII., fig. 1.

D. $4\frac{1}{2}$. A. $2\frac{1}{8}$. P. 15. L. lat. 42. L. tr. 12.

Height of body $5\frac{1}{2}$, and length of head 5 times in the total length. Body elongate, rather compressed. Profile of head at the snout a little convex; forehead transversely slightly convex; upper lip thick, on both lips small cilia, knot of the under jaw simple. Groove of the vomer deep. Lower margin of the præorbital straight without serrature. Maxillary narrow posteriorly, not hidden under the præorbital, and not reaching the anterior margin of the eye. The eye has highly developed anterior and posterior lids, with a gelatinous mass in front and behind. The space on the chin is of an elongate lance-shape. The margin of the operculum is simply curved. Scales large, conspicuous and striated, the striæ on the breast a little oblique. The 1st spine of the 1st dorsal is situated in the middle of the body (excluding the caudal fin) it is short and strong, the others are slender and flexible; the anal is situated a little nearer the head than the 2nd dorsal. Pectorals short, triangular, $1\frac{1}{2}$ in the head; ventrals a little shorter; caudal deeply forked, forks pointed. Colour as usual, pectoral fin blackish behind, margin hyaline; 2nd dorsal and caudal blackish margined. 45 Ctm.

Hobson's Bay. (Klunzinger.)

1126. MUGIL MULLERI. Klunz.

Sitzb. der K. Akad. der Wissensch., 1879, p. 395.

D. $4\frac{1}{2}$. A. $3\frac{1}{8}$. L. lat. 38-40. L. tr. 14.

Height $4\frac{1}{2}$ and head 4 times in the total length. Nearly related to *M. suppositus*. Gunth. but of different dimensions. Mouth in front angular, pointed; upper lip narrow; both lips with well developed cilia; keel of the under jaw simple; præorbital toothed on its posterior margin; the posterior small end of the maxillary not. Head scaly above as far as the lip; dorsal rays stiff but not thick. Eye without adipose membrane. Colour simple, silvery; fins without black margin; no axillary spot. 8 Ctm.

King George's Sound. (Klunzinger.)

1227. MUGIL NASUTUS. De Vis.

Pro. Linn. Soc., N. S. Wales, Vol. VII., p. 621.

Rockingham Bay.

1228. MUGIL RAMSAYI. Macleay.

Proc. Linn. Soc., N. S. Wales, Vol. VIII., p. 208.

Burdekin River.

Family. CENTRISCIDÆ.

1229. CENTRISCUS GRACILIS. Lowe.

Proc. Zool. Soc., 1839, p. 86. Gunth. Cat. III., p. 521.

B. 4. D. 4-5/11. A. 18-19. P. 16. V. 5. C. 6 x 4 x 5 x 6.

The height of the body is contained twice and three-fifths to three times in the distance of the operculum from the base of the caudal fin. The second dorsal spine is rather strong, not (or very indistinctly) denticulated posteriorly, its length being one-fourth or two-ninths of the distance of the operculum from the caudal.

Port Jackson. (Macl. Mus.)

C. scolopax I have never seen here. Mr. Johnston's *scolopax* is probably this species,

Family. GOBIESOCIDÆ.

Genus GOBIESOX. Lacep.

Anterior part of the body very broad and depressed; skin tough. Snout very obtuse. Dorsal fin short, situated on the tail.

Posterior portion of the adhesive disks without free anterior margin. Distinct incisors in the lower jaw ; those of the upper jaw are in several series, and the interior ones sometimes compressed. Gills three, pseudobranchiæ rudimentary ; gill-membranes united under the throat, and not attached to the isthmus.

West Coast of South America, &c.

1130. *GOBIESOX CARDINALIS*. Ramsay.

Proc. Linn. Soc. N. S. Wales. Vol. VII., p. 148.

Tasmania.

Family. TRACHYPTERDÆ.

Genus. TRACHYTERUS. Gouan.

Body elongate, strongly compressed, naked ; eye lateral ; mouth small, dentition feeble. One dorsal fin occupying the whole back, with a detached anterior portion, composed of flexible rays. Ventrals thoracic, well developed, composed of several more or less branched rays. Gill-opening wide ; pyloric appendages in very great number. Vertebrae numerous. Bones soft, muscles little coherent.

Coasts of Europe. Pacific Ocean South.

1231. *TRACHYTERUS ALTIVELIS*. Kner.

Gunth. Cat. III, p. 303.

B. 6. D. 7/190. A. O. C. 6/4-6. P. II. V. 7.

“The greatest height of the body is above the ventral fins, equal to the length of the head, and one seventh of the total. Form of the head as in *T. tania*. Eight teeth in the upper and six in the lower jaw. The anterior dorsal rays elevated ; the longest of the second dorsal fin are not much lower than the body ; dorsal rays rough, with a small spine at the base of each. Form of caudal fin and tubercles as in *T. tania*. Silvery, with three large round black spots below the dorsal fin ; a fourth near the abdominal edge, a little behind the first on the back.”

A specimen taken at Spring Bay, East Coast of Tasmania, and now in the Museum, Hobart. (Johnston.)

Family. POMACENTRIDÆ.

1232. POMACENTRUS TRILINEATUS. Cuv. and Val.

Gunth. Cat. IV., p. 25. Bleek. Atl. Ichth. Pomac., tab. 7, fig. 1-6.

D. 13/15. A. 2/16. L. lat. 28. L. tr. 3/9.

“The height of the body is contained twice and three-fourths in the total length; præorbital denticulated, with two stronger teeth anteriorly. The dorsal spines increase in length towards behind; caudal emarginate, with the lobes rounded. Greenish-olive (in spirits brown); the base of the caudal itself yellowish, each scale with one, two, or three sky-blue dots; three or five very fine blue lines along the forehead, the outer of which are continued on the nape of the neck and sometimes along the base of the dorsal fin; a round dark spot above the operculum; a black spot edged with blue on the back of the tail, immediately behind the dorsal fin; young specimens with a second similar spot on the anterior third of the soft dorsal fin.”

Port Darwin and Port Denison. (Klunzinger.)

1233. POMACENTRUS TENIURUS. Bleek.

Atl. Ichth. Pomac. tab. 9, fig. 2. Gunth. Cat. IV., p. 22.

D. 13/11. A. 2/11. L. lat. 28.

“The height of the body is contained $3\frac{3}{4}$ to $3\frac{1}{2}$ in the total length; præorbital not serrated. The posterior dorsal spines are nearly as long as the middle ones; caudal fin with the lobes pointed and produced. Violet-olive, each scale with a pearl-coloured spot; a blackish spot above the operculum and above the base of the pectoral fin. Dorsal and anal fins dark-violet, the posterior half of the soft portion and the pectorals orange-coloured, caudal orange-coloured, with a dark-violet longitudinal band on each lobe.”

Port Denison. (Klunzinger.)

1234. POMACENTRUS CYANOSPILUS. Bleek.

Atl. Ichth. Pomac. tab. 4, fig. 5. Gunth. Cat. IV., p. 30.

D. 12/15. A. 2/13-14. L. lat. 26. L. tr. 3/9.

“The height of the body is contained twice and two-thirds in the total length. There is no notch between the præorbital and the other suborbitals, their lower or posterior margin being equally and finely serrated. The dorsal spines become gradually longer posteriorly. Caudal rather deeply emarginate, with the lobes rounded. Brownish, sides of the head and the scales above the anal fin with round bluish spots; anal and dorsal fins very dark posteriorly; axillary or dorsal spots none.”

Port Darwin. (Klunzinger)

1235. *POMACENTRUS FASCIATUS*. Cuv. and Val.

Gunth. Cat., IV., p. 19.

B. 5. D. 12-13/13. A. 2/12-13. L. lat. 27. L. tr. 3/9.

The height of the body is contained twice and three-fourths in the total length; præorbital denticulated. The dorsal spines increase in length posteriorly; caudal very slightly emarginate. Brown, lighter beneath, with four yellowish cross-bands; one from the neck to the operculum, the second from the front part of the dorsal fin to behind axil of the pectoral, the third from the posterior dorsal spines, and the fourth, spot-like, on the back of the tail; two parallel series of black spots from the opercle along the side of the trunk.”

Port Darwin. (Klunzinger.)

1236. *GLYPHIDODON MELANOPUS*. Bleek.

Alt. Ichth. Pomac. tab. 8, fig. 7. Gunth. Cat. IV. p. 48.

D. 13/13. A. 2/13. L. lat. 28.

The upper profile of the head is convex; snout shorter than the eye; the width of the præorbital, above the angle of the mouth, is less than one-half of that of the orbit. Each jaw with about forty teeth. Yellow; most of the scales with a blue spot; the anterior portion of the ventral and anal fins black.

Port Denison. (Klunzinger.)

Species 680. *Heliastes hysilepis*. Gunth.

Additional habitat. King George's Sound. (Klunzinger.)

Family. LABRIDÆ.

Genus PLATYCHÆROPS. Klunz.

A genus intermediate between *Chærops* and *Heterochærops*, with the latter it agrees in the number of dorsal spines (only 11) with the former in the great altitude of the præorbital. Peculiar, are the very flattened spines of the dorsal and anal fins, and the partially incisor like character of the front teeth; the scaly sheath for the dorsal and anal fins is highly developed.

1237. PLATYCHÆROPS MULLERI. Klunz.

Sitzb. der Akad. der Wissensch., 1879, p. 399. Tab. VIII. fig. 2.
D. 11/11-12. A. 3/11-12. L. lat. 36-38. L. tr. 8/12.

Height $3\frac{1}{2}$ - $3\frac{3}{4}$, and head 4 times in the total length. The front teeth are flat, not conical, the lateral teeth as in *Chærops*. The upper lip is large and flat, leaf-shaped, the under similar but thicker. The scales of the cheeks are non-imbricate; the margin of the præoperculum, around the eyes, the forehead, the snout, the præorbital, the lips and the chin are naked. The scales of the nape are small, those of the operculum of medium size, and those of the body large. Lateral line continuous with slightly branched ramifications. Eyes small; dorsal spines flat, knife-shaped, except the 4 posterior ones and the two anterior anal rays. Ventrals shorter than the pectorals; caudal truncate; dorsal and anal rays higher than the spines. Of very robust form. Colour dirty grey-green, head brown, fins livid. 28 Ctm.

King George's Sound. (Klunzinger.)

1238. TROCHOCOPUS SANGUINOLENTUS. De Vis.

Proc. Linn. Soc. N. S. Wales, Vol. VIII., p. 287.

Cape Moreton.

1239. COSSYPHUS FRENCHII. Klunz.

Sitzb. der K. Akad. der Wissensch., 1879, p. 400.

D. 12/10. A. 3/11. L. lat. 35-37. L. tr. 4/12.

I give this species a place in my catalogue, but Dr. Klunzinger is very doubtful as to whether it is not identical with my

Trochochopus rufus. If it be the same fish, he is certainly not justified in changing the genus and name of the species. The differences in the descriptions are of the most trivial description.

1240. LABRICHTHYS DUX. De Vis.

Proc. Linn. Soc., N. S. Wales, Vol. VIII., p. 287.

Moreton Bay.

Genus. NOVACULA. Cuv. and Val.

Body compressed, oblong, covered with scales of moderate size; head compressed, more or less elevated and obtuse, with the upper profile generally more or less parabolic; head nearly entirely naked, or with small scales on the cheek; lateral line interrupted. No posterior canine tooth. D. 9/12. A. 3/12, the two anterior dorsal spines sometimes remote or separate from the other.

Tropical Seas.

1241. NOVACULA JACKSONIENSIS. Ramsay.

Proc. Linn. Soc., N. S. Wales, Vol. III., p. 198.

Port Jackson.

1242. CORIS SEMICINCTA. Ramsay.

Proc. Linn. Soc. N. S. Wales. Vol. VII., p. 301.

Broken Bay. Lord Howe's Island.

Species. 762. *Siphonognathus argyrophanes*.

Four specimens of this very curious fish were received lately by the Australian Museum from South Australia. In the character of the genus given by Dr. Gunther in his Catalogue, he has omitted to mention that there are no ventral fins.

Family. GADIDÆ.

1243. LOTELLA SWANII. Johnston.

B. 7. D. 4/60. A. 55. V. 8. P. 22-23. L. lat. 200. L. tr. 22/62.

Head contained $4\frac{2}{3}$ times in total length, and greatest depth $4\frac{1}{2}$ times. Length of snout equal to diameter of eye, and about one-fifth the length of the head. Distance between orbits half again



as broad as diameter of eye. There is a series of 8 to 11 irregular teeth in upper and lower jaws. Scales small. Colour uniformly dark brown. Not common. (Johnston.)

Tasmania.

Genus. *PHYSICULUS*. Kaup.

Body elongate, covered with small scales. A separate caudal ; two dorsal fins and one anal ; ventral fins with a very narrow but flat base, composed of several rays. Teeth in the jaws in a band, small, villiform, of equal size ; vomerine or palatine teeth none. Chin with a barbel. Branchiostegals seven ; gill-rakers of the outer branchial arch short.

Madeira.

1244. *PHYSICULUS PALMATUS*. Klunz.

Archiv. fur Naturg., XXXVIII., 1872.

R. br. 7. D. 9/56. A. c. 50. L. lat. c. 120. L. br. c. 15/30.

Height of body and length of head $4\frac{1}{2}$ in the length. Elongate, elliptic ; profile of head slightly parabolic, point of snout notched, forehead and præorbital scaly ; under jaw retreating ; a pointed barbel on the chin about as long as the eye ; the maxillary reaches beyond the hind margin of the eye. There is a broad band of villiform teeth in both jaws, none on the vomer and palate. The 1st dorsal fin commences immediately behind the base of the pectoral, the 2nd dorsal opposite the anal ; the caudal is quite separate and rounded. The ventrals are about half the size of the head, with the base narrow, but flat and not styliform. Colour brownish, dorsal anal and caudal fins brown-margined. Length, 50 Ctm.

Port Phillip. (Klunz.)

1245. *PSEUDOPHYCIS BREVIUSCULUS*. Richards.

Ramsay Proc. Linn. Soc., N. S. Wales, Vol. VI., p. 717.

Port Jackson.

Family. *MACRURIDÆ*.

1246. *CORYPILENOIDES TASMANIE*. Johnston.

Proc. Royal Soc. Tasman., 1882, p. 143.

B. 7. D. 15/103. A. 90. V. 8.

Snout short and obtuse, not projecting beyond mouth. Length nearly six times that of the head, which latter is longer than the greatest depth of body, and measures three times the length of snout. Diameter of eye scarcely equal to length of snout. Barbel rudimentary. Scales small, smooth, without ridges or spines. There are eight series of scales between anterior dorsal and the lateral line. The lateral line is composed of about 133 series of scales, the pierced scales being interrupted. The first dorsal is composed of 15 feeble jointed rays, the length about twice the diameter of the eye. The second dorsal commences near to the termination of the first dorsal. The anus is situated under the 17th ray of the second dorsal, and nearer to the snout than to the tail by twice the length of the snout. Uniform silvery plumbeous, with a purplish shade. (Johnston.)

Seen in shoals at some seasons between Port Davey and Macquarie Harbour, known as the "Tasmanian Whiptail."

Family. PLEURONECTIDÆ.

Species 780. *Pseudorhombus Russellii*.

Klunzinger makes the *P. polyspilus* Bleek, regarded by Gunther as a synonym of *Russellii*, as a different species. He is probably right, the markings and the dentition are certainly a little different. He gives King George's Sound as its locality.

1247. PSEUDORHOMBUS MULLERI. Klunz.

Archiv. fur Naturg., 1872. Sitzb. der. K. Akad. der Wissensch., 1879, Tab. IX., fig. 2.

D. 90. A. 73. V. 6. L. lat. 66.

Body oval, elliptic; profile of head convex. Teeth in both jaws in one row, small, rather unequal. Mouth oblique, jaws equal; length of upper jaw 3 in length of head. Eyes close and directly above one another, the lower slightly in advance. The diameter of the anterior curved portion of the lateral line, $1\frac{1}{3}$ in the length of the head. The dorsal fin commences a little in front of the eye, the rays are of about the same height from the 10th to the 70th. Scales medium size, ciliated. Pectoral fin

narrow, $1\frac{1}{2}$ in the length of the head; ventral nearly 3 in length of head; dorsal and anal nearly join the caudal. Colour uniform dark brown. 15 Ctm.

Hobson's Bay. (Klunzinger.)

1248. *AMMOTRETIS ZONATUS*. Macleay.

Proc. Linn. Soc., N. S. Wales, Vol. II., p. 367.

Port Jackson.

Genus. *PLEURONECTES*.

Cleft of the mouth narrow, with the dentition much more developed on the blind side than on the coloured. Teeth in a single or double series, of moderate size; palatine and vomerine teeth none. The dorsal fin commences above the eye. Scales very small or rudimentary, or entirely absent. Eyes generally on the right side.

Temperate and Arctic Seas.

1249. *PLEURONECTES MORETONIENSIS*. De Vis.

Proc. Linn. Soc., N. S. Wales, Vol. VII., p. 370.

Moreton Bay.

1250. *SOLEA UNCINATA*. Klunz.

Sitzb. der. K. Akad. der Wissensch., 1879, p. 408.

D. 77. A. 50. V. dextr. 7, sin. 4. P. 10.

Height of body $2\frac{1}{2}$, and length of head 3 times in the total length without caudal fin. L. lat. about 70; the highest dorsal and anal rays $3\frac{1}{2}$ in length of body, Body oval, scales small, lateral line straight; pectorals of left side scarcely smaller than the other; lower eye much advanced; forehead small, protruding, scaly; snout curved backwards under the chin, the dorsal rays extending to the point; caudal fin long and rounded; left nostril small. Colour uniform, slate-grey to black. Resembles *S. liturata* Richards. 15 to 20 Ctm.

King George's Sound. (Klunzinger.)

1251. *SOLEA FLUVIATILIS*. Ramsay.

Proc. Linn. Soc. N. S. Wales. Vol. VII. p. III.,
Hunter River.

1252. *SOLEA LINEATA*. Ramsay.

Proc. Linn. Soc., N. S. Wales. Vol. VII., p. 406.
Port Stephens.

1253. *SOLEA (ACHIRUS) POROPTERA*. Bleek.

Atl. Ichth. Pleuron. p. 24. tab. 15, fig. 2.
D. 67. A. 52. L. lat. 80.

Dorsal and anal fins simple, or bifid at the top only. The height of the body is contained twice and a half or twice and two thirds in the total length. Eyes subcontiguous. Colour greyish-brown with numerous small blackish dots; two brown blotches on the lateral line, and four others along the back. Probably the same as *Achirus thepassii*. Bleek. Gunth. Cat. IV., p. 478.

Port Darwin. (Klunzinger.)

1254. *SYNAPTURA FASCIATA*. Macleay.

Proc. Linn. Soc., N. S. Wales. Vol. VII., p. 14.
Port Jackson.

1255. *SYNAPTURA SELHEIMI*. Macleay.

Proc. Linn. Soc., N. S. Wales. Vol. VII., p. 71.
Palmer River. Fresh water.

1256. *SYNAPTURA FITZROIENSIS*. De Vis.

Proc. Linn. Soc., N. S. Wales. Vol., VII., p. 319.
Fitzroy River.

1257. *SYNAPTURA CINEREA*. De Vis.

Proc. Linn. Soc. N. S. Wales. Vol. VIII., p. 288.
Moreton Bay.

1258. *PLAGUSIA NOTATA*. De Vis.

Proc. Linn. Soc., N. S. Wales. Vol. VIII., p. 288.
Moreton Bay.

Species. 799. *Plagusia guttata*. Macleay.

Klunzinger thinks this is the *Plagusia japonica* of Schlegel.

Genus. LOPHORHOMBUS. Macleay.

Proc. Linn. Soc., N. S. Wales. Vol. VII., p. 14.

This is without doubt the genus *Lophonectes* of Gunther. Report of Zool. of Challenger Exp. Part VI., p. 28.

Dr. Gunther's name has priority.

1259. LOPHORHOMBUS CRISTATUS. Macleay.

Proc. Linn. Soc., N. S. Wales. Vol. VII., p. 14.

Lophonectes gallus. Gunth. Report Zool. Chall. Part VI. p. 29. Pl. XV., fig. B.

Port Jackson.

Dr. Gunther's name has priority.

Genus. LÆOPS. Gunth.

Body oblong; head small; cleft of mouth very narrow, with the dentition much more developed on the blind side than on the coloured. Teeth villiform, in narrow bands; palatine and vomerine teeth none. Dorsal fin commencing above the front margin of the eye. Scales small, thin, deciduous. Eyes on the left side.

1260. LÆOPS PARVICEPS. Gunth.

Report of Zool. Challenger Exp. Part VI., p. 29. Pl. XV. fig. A.

D. 104. A. 86.

The height of the body is contained $2\frac{2}{3}$ in the total length (without caudal), the length of the head $5\frac{1}{3}$. The snout is very short. The eye rather large; its diameter being $3\frac{1}{3}$ in the length of the head. A very narrow ridge, longitudinally grooved, separates the two eyes, the lower being conspicuously in advance of the upper. The mouth is directed upwards, and the maxillary of the left side extends scarcely below the anterior margin of the eye. The dorsal fin commences opposite to the front margin of the upper eye and is continued to the root of the caudal, the rays being of moderate length. Caudal rounded. The left pectoral rather longer than the right, and as long as the postorbital portion of the head. The rays of the left ventral are arranged in the

same line as the anal, the right ventral being entirely on the right side. The lateral line makes a very short semi-circular curve anteriorly, and is straight for the remainder of its course. The colour appears to have been uniform brown.

Off Twofold Bay. (Gunther.)

Genus. *CYNOGLOSSUS*. Ham. Buch.

Eyes on the left side; pectorals none, vertical fins confluent. Scales etenoid; lateral line on the left side double or triple; upper part of the snout produced backwards into a hook; mouth unsymmetrical, rather narrow; lips not fringed. Teeth minute, on the right side only. Gill-opening very narrow.

Indian Seas.

1261. *CYNOGLOSSUS QUADRILINEATUS*. Bleek.

Atl. Ichth. Pleuron. p. 32, tab. 14, fig 3. Gunth. Cat. IV. p. 497.

D. 102-112. A. 83-86. C. 10. V. 4. L. lat. 95.

Two lateral lines on each side, separated in the middle by about fourteen longitudinal series of scales. Two nostrils, one between the eyes, the other below the lower angle of the lower eye. The upper eye somewhat in advance of the lower. Lips not fimbriated. The length of the snout is contained twice and two-thirds in that of the head. The rostral hook just covers the symphysis of the mandibles. The height of the body is somewhat less than one-fourth of the total length, the length of the head one-fifth. Uniform brownish; fins yellowish; a black spot on the operculum.

Cleveland Bay. (Klunzinger.)

Family. *SILURIDÆ*.

1262. *CNIDOGLANIS MULLERI*. Klunz.

Sitzb. der K. Akad. der Wissensch. 1879, p. 411.

D. 1/5. Height of body 7 and length of head 6 in the total length. Snout a little projecting; underlip thick and covered with warts, without fringe, not pendent. Side fringes on the angle not threadshaped; the nasal barbel reaches a little beyond

the head, but not to the dorsal fin; the maxillary barbels are much shorter, only reaching just beyond the eye; the outer mandibulatory barbels reach to the branchial aperture, the inner about half the distance. Five short canine teeth on each side of the lower jaw. 1st dorsal fin as high as the body and a little shorter than the head; pectoral spine a little shorter than the dorsal. Colour uniform brownish. Allied to *C. microcephalus*, 15 Ctm.

Port Darwin. (Klunzinger.)

Family. HAPLOCHITONIDÆ.

Genus. HAPLOCHITON. Jenyns.

General habit of the trout, but completely naked. The dorsal fin occupies a position somewhat posterior to that of the ventrals, which are in the middle of the length of the body, and composed of seven rays. Adipose fin small; caudal forked; anal of moderate length. The nostrils are somewhat remote from each other. Eyes of moderate size. Teeth small, curved, in a single series, in the upper and lower jaw and on the palatine bones. Tongue broad, with a series of curved teeth on each side. Gill-openings rather wide, the gill-membranes not attached to the isthmus; the outer branchial arch with lanceolate gill-rakers. Pseudobranchiæ well developed. Air-bladder simple, grown to the walls of the abdomen. Stomach thick and muscular; pyloric appendages none. The urogenital organs of both sexes are produced into a cylindrical tube, which lies concealed in a groove before the anal fin.

Tierra del Fuego and Falkland Islands.

1263. HAPLOCHITON SEALII. Johnston.

Proc. Roy. Soc. Tasman., 1882, p. 128. *The Derwent Smelt*.

B. 6. D. 8-9. A. 19-20. V. 7. P. 9-12. Vert. 56-57.

“Body naked. Total length 5·3 times length of head and nearly 10 times the height of the body. Head somewhat broad, depressed; interorbital space wide. Teeth in a single series, small, hooked, on maxillary and mandible, minute on the palate. Eye relatively large, diameter equal to length of snout, which latter is contained

in head 3.2 times. Maxillary extending to a vertical line drawn through centre of eye; posterior end slightly enlarged, and curved downwards. Lower jaw slightly longer. Dorsal situated rather in advance of vent and behind ventral fin. Belly rounded. Adipose fin membranous, rudimentary, broadly deltoid. Body ornamented with extremely minute dots; from the ventrals forward these minute dots form two parallel interrupted lines, which gradually approach and unite at an acute angle under the mandibles. Silvery band along sides. Length 1 to 2 inches.

Upper Derwent River. Tasmania.

Family. SCOPELIDÆ.

1264. SAURIDA FEROX. Ramsay.

Proc. Linn. Soc., N. S. Wales, Vol. VIII., p. 177.
Port Jackson.

Family. GALAXIDÆ.

1265. GALAXIAS ROSTRATUS. Klunz.

Archiv. für Naturg., 1872, p. 41.

R. br. 6. D. 11. A. 14. P. 14. V. 7.

Height of body $8\frac{1}{2}$ and length of head $5\frac{1}{2}$ in the total. Body very slender; forehead broad and flat. Jaws equal, each with a row of slightly hooked teeth, the same on the palate; those on tongue in two rows. Eye shorter than the snout; the maxillary reaches to below the middle of the eye. The dorsal fin commences at the beginning of the last third of the body, and a little in front of the anal fin. The free part of the tail is as long as the anal fin; the caudal is slightly emarginate; the ventrals are situated midway between the base of the caudal and the front margin of the eye; the pectorals are of the same length as the ventrals and are much shorter than half the distance between the two fins. Colour uniform brownish-yellow, fins bright; across the base of the tail a dark cross-band on spot. Length 13 Ctm. Murray River. (Klunzinger.)

1266. GALAXIAS FINDLAYI. Macleay.

Proc. Linn. Soc., N. S. Wales, Vol. VII., p. 107.
Mount Kosciusko.

1267. GALAXIAS AURATUS. Johnston.

Proc. Linn. Soc. Tasman, 1882, p. 131. "*Lake Trout.*"

B. 9. D. 11-12. A. 14. P. 16. V. 1/7.

"The height of the body is contained five times in the total length; the length of head nearly four times. The head is very much depressed. Interorbital space wide, having three pairs of pores over each eye. About seventy distinct pores, mostly in pairs, along usual course of lateral line. Head blackish. Body of a bright transparent golden hue. Spots very large, rounded and sometimes confluent above lateral line. No blackish bars across shoulder. Ventrals tipped with black; base and tips of anal and dorsal blackish. Pectoral reaches half the distance from root of ventral. Total length $9\frac{3}{4}$ inches."

Hab. Great Lake, alt. 4000 feet. Tasmania.

1268. GALAXIAS WEEDONI. Johnston.

Proc. Royal Soc., Tasman., 1882, p. 131. "*Mersey Jolly-tail.*"
D. 11. A. 14. P. 15.

Body somewhat compressed. Length of head scarcely exceeding the depth of body, and contained four and a half times in the total length. Pectoral reaches half the distance to root of ventral. Head and body brownish black; back and sides marbled with irregularly transverse wedged-shaped streaks, and bands of darker hue. Caudal bifurcate. Length $4\frac{1}{2}$ inches."

Mersey River, Tasmania.

1269. GALAXIAS ATKINSONI. Johnston.

Proc. Roy. Soc., Tasman., 1882, p. 131. "*Pieman Jolly-tail.*"
B. 9. D. 11. P. 13. A. 14. V. 8.

"Length $4\frac{1}{3}$ times that of the head, and the latter is equal to $1\frac{1}{2}$ the height of the body. Diameter of eye equal to length of snout

and $\frac{1}{4}$ of head. Pectoral reaches more than half the distance to root of ventral. The depth of caudal peduncle not half the length of distance between dorsal and caudal fins. Colour darkish brown, sides with 16 to 18 regular transverse bands of a deeper shade composed of microscopic dots, larger dots are distributed along the lines of vertebræ and ribs. Length $2\frac{1}{2}$ inches.

Pieman River, Tasmania.

Family. SCOMBRESOCIDÆ.

1270. BELONE GRENERI. Klunz.

Sitzb. der K. Akad. der Wissensch. 1879, p. 414.

D. 19-20. A. 20.

Height of body $1\frac{1}{4}$ in the length of the pectoral fin. Head above with a shallow but distinct groove; tongue rough; length of head a little more than one-third of the total length without the caudal fin. In other respects this species is like *B. robustus*. Gunth. A slight keel of skin on the tail which is higher than broad; posterior dorsal and anal rays low; the lower margin of the maxillary only visible; scales small, adhering, caudal fin forked. *B. charan* has the posterior dorsal and anal rays longer, and is also different in its dimensions and fin formula. *B. liuroides* has larger scales and larger head. The colour in this species is like the rest of the genus. Dr. Klunzinger thinks that this species is also quite distinct from *B. gavealoides* of Castelnau, but he complains that that species has been very inadequately described. 60 Ctm.

Port Darwin. (Klunzinger.)

Family. CLUPEIDÆ.

1271. EUGRAULIS CARPENTARIE. De Vis.

Proc. Linn. Soc., N. S. Wales. Vol. VII., p. 320.

Norman River.

1272. ENGRAULIS HETEROLOBUS. Rüpp.

Gunth. Cat. VII. p. 392., Klunz. Archiv. fur Naturg. 1872, p. 42.

B. 12. D. 14. A. 17-18. L. lat. 42.

The height of the body is two elevenths of the total length, the length of the head one-fourth; head not quite as long as deep. Snout pointed, much projecting below the lower jaw; maxillary very finely toothed, rather pointed behind, extending somewhat beyond the mandibular joint. Origin of the dorsal fin midway between the end of the snout and the root of the caudal fin. Anal commencing immediately behind the dorsal. Abdomen compressed in front of the ventrals, with several scutes. A well defined silvery band along the side.

Cleveland Bay and Hobson's Bay. (Klunzinger.)

1273. ENGRAULIS MYSTAX. Bl. Schn.

Gunth. Cat. VII., p. 397. Bleek. Atl. Ichth. Clup., p. 132. Tab. 3. Fig. 2.

B. 12. D. 13-14. A. 34. L. lat. 42.

The height of the body is contained $3\frac{1}{2}$ or $3\frac{1}{2}$ in the total length (without caudal), the length of the head 4 times. Snout, short, obtuse, much projecting below the lower jaw. Teeth present in both jaws, minute. Maxillary much prolonged, extending to, or nearly to, the ventrals; it has a short dilatation above the mandibular joint. Gill rakers not very fine, about 16 on the lower branch of the outer branchial arch, the longest as long as the eye. Origin of dorsal fin somewhat nearer to the end of the snout than the root of the caudal. Anal commencing shortly behind the last dorsal rays. Abdomen compressed, the spine scutes extending to the gill-opening. Sometimes a blackish spot across the nape down to the scapula.

Queensland. (Klunzinger.)

1274. ENGRAULIS HAMILTONII. Gray.

Gunth. Cat. VII., 395. Macleay. Proc. Linn. Soc., N. S. Wales. Vol. VIII., p. 209.

E. poorawah Cuv. Bleek. Atl. Clup. tab. 1, fig. 5. *E. Grayi* Kner. Voy. Nov.

B. 13. D. 13. A. 36-40. L. lat. 47.

The height of the body is contained $3\frac{1}{2}$ or $3\frac{3}{4}$ in the length (without caudal.) The length of the head $4\frac{1}{4}$ or $4\frac{1}{2}$. Both jaws

with minute teeth ; the maxillary dilated above the mandibular joint, its posterior tapering portion extends to or nearly to, the root of the pectoral fin. Origin of dorsal midway between the end of the snout and root of the caudal. Anal commencing immediately behind the last dorsal ray. Entire abdominal ridge serrated. Scapulary region with black venules. Gill-rakers rather strong, distant, 13 on the horizontal branch of outer branchial arch, the longest rather shorter than the eye.

Lower Burdekin in Shoals. (Macleay.)

1275. *CHATOESSUS ELONGATUS*. Macleay.

Proc. Linn. Soc. N. S. Wales. Vol. VIII., p. 209.

Lagoons. Mary River.

Species. 887. *CHATOESSUS EREBI*.

Klunzinger regards *C. erebi* of Castelnau as identical with the above species, and *C. Richardsoni* Castelnau as the true *C. erebi* of Richardson.

Family. MURÆNIDÆ.

1276. *ANGUILLA AMBOINENSIS*. Pet.

Gunth. Cat. VIII., p. 34.

Origin of the dorsal fin twice as far distant from the pectoral fin as from the vent. The length of the head one third of the distance of the vent from the end of the snout. Angle of the mouth below the hind margin of the eye. Teeth small, in broad bands, that of the vomer rather narrower than that of the maxillary. Yellowish-brown, spotted with dark brown.

Port Phillip. (Klunzinger.)

1277. *ANGUILLA MARGINIFINNIS*. Macleay.

Proc. Linn. Soc. N. S. Wales, Vol. VIII., p. 210.

Lillesmere Lagoon, Burdekin River.

1278. *MURÆNICBTHYS MACROPTERUS*. Bleek.

Atl. Ichth. Mur., p. 31, tab. VII, fig. 3. Gunth. Cat. VIII.,

Origin of the dorsal fin nearer to the gill-opening than to the vent. Snout pointed, the greater part of the teeth biserial. The cleft of the mouth extends somewhat behind the eye. Length, 14 inches.

Port Phillip. (Klunzinger.)

Family. SYNGNATHIDÆ.

1279. SYNGNATHUS CINCTUS. Ramsay.

Proc. Linn. Soc., N. S. Wales, Vol. VII., p. III.

Port Jackson, in 17 fathoms.

1280. SYNGNATHIUS SUPERCILIARIS. Gunth.

Report Zool. Exp., Challenger, part VI., p. .

D. 23. Osseous rings. 20 x 38.

Snout as long as the postorbital part of head, with a median ridge above, terminating on the interorbital space, neck compressed into trenchant ridge; operculum without keel and with fine radiating striæ. Shields without spines; lateral line passing into the lower caudal edge; base of the dorsal fin not elevated, standing on three body and three caudal rings. Tail twice as long as the trunk. A very conspicuous filament above each eye. Pectoral and caudal fins well developed. Brownish-grey, with indistinct darker cross-brands, and finely marbled with darker and lighter spots; snout and lower half of head with oblique vermiculated brown lines. Length, 3 to $6\frac{3}{4}$ inches.

Port Jackson. (Gunther.)

1281. SYNGNATHIUS CARETTA. Klunz.

Sitzb. der K. Akad. der Wissensch. 1879, p. 419.

S. modestus Klunz. (nec. Gunth.) Archiv. fur Naturg., XXXVIII., 1872.

D. 24. Osseous rings, 17 x 42-44.

Head $8\frac{1}{2}$ -9 in the length; snout $2\frac{1}{4}$ in length of head; trunk half the total length. Operculum with a short longitudinal ridge in front only. Two nape shields with a longitudinal crest in middle. The lateral line is distinct as far as the anal shield. On the caudal shields it is either wanting or indistinct and interrupted. The dorsal fin commences on the anterior part of

the anal ring ; pectoral and caudal fins distinct, anal rudimentary. Body anteriorly a little higher than broad, nearly square. Colour brownish on the back, with lighter shield like transverse marks or bands at varying distances, and about 12 in number. 10 Ctns.

Port Phillip. (Klunzinger.)

1282. SOLENOGNATHUS FASCIATUS. Gunth.

Report Chall. Exp. Zool. Part VI., p. 30, pl. XIV., fig. B.

D. 41. Osseous rings, 27 x 55.

This species is most closely allied to *Solenognathus spinosissimus*, having the same rough and spiny scutes, but the forehead is somewhat broader, the dorsal longer and composed of more numerous rays, and the back of the trunk ornamented with seven narrow blackish cross-bars. Also the præanal region is blackish. Length of specimen, 11 inches, (tail $5\frac{1}{2}$ inches.

Twofold Bay. 120 fathoms. (Gunther.)

Family. GYMNOBONTES.

1283. TETRODON RETICULARIS. Bl. Schn.

Gunth. Cat. VIII., p. 296. *T. testudineus* Bleek. Atl. Gymnod, p. 71, pl. 8, fig. 3.

Very small spines cover the whole body from the nostrils to the root of the caudal fin ; those on the abdomen with two, three, or four roots. Snout short and obtuse, about one-third of the length of the head, and two-thirds of the width of the broad and flat interorbital space. Length of the caudal fin equal to its distance from the front margin of the dorsal. Abdomen with rather numerous brown or black longitudinal bands, obliquely ascending over the cheeks to the upper part of the head, and passing on the side into a brown network, the meshes enclosing round whitish spots. On the back the brown is the ground colour, with round whitish spots. Caudal fin with round yellowish spots, separated by a blackish network. Vert. 8/10.

Lower Burdekin. Salt water. (Macleay.)

Family. CARCHARIDÆ.

1284. CARCHARIAS CRENIDENS. Klunz.

Sitzb. der K. Akad. der Wissensch. 1879, p. 426. Taf. VIII., fig. 3

Of the subgenus *Scoliodon*. Teeth in both jaws serrated on the outer edge of the base, oblique, and without middle tooth in the lower jaw; no serration on the inner margin. The teeth in the upper jaw $12\frac{1}{12}$, in the lower $12\frac{1}{12}$. The fold of the upper lip is very distinct, therein differing from *C. acutus*, and is a little longer than the under one. The fold of the upper lip occupies $\frac{1}{3}$ of the half of the lip, that of the lower $\frac{1}{4}$ of the half of the lower lip. Snout long, obliquely obtuse in front, the distance between the outer angles of the nostrils is much greater than that between the nostrils and the snout; the length of the snout from the anterior margin of the mouth is equal to the distance of the eye from the anterior gill-opening. Pores on the head as in *C. acutus*. The length of the base of the anal fin is equal to half its distance from the ventral. Colour as in *C. acutus*, pectorals whitish margined behind; the back of the caudal dark. 60 Ctm. Queensland. (Klunzinger.)

Family. LAMNIDÆ.

Genus. SELACHE. Cuv.

The first dorsal fin opposite to the space between the pectoral and ventral fins, without spine; the second and the anal fin very small; a pit at the root of the caudal fin, which is provided with a lower lobe. Side of the tail with a keel. No membrana nictitans. A very small spiracle above the angle of the mouth. Gill-openings extremely wide. Teeth very small, numerous, conical, without serrature or lateral cusps.

Arctic Regions.

1285. SELACHE MAXIMA. Gunn.

Gunth. Cat. VIII., p. 394. Basking Shark of Northern Europe.

This is the only species known of *Selache*, so that the generic characters sufficiently describe the species. It has hitherto been

believed to inhabit only the Arctic Regions, but the recent discovery of one by Professor MacCoy on the Coast of Victoria, seems to point to the conclusion that it is also an inhabitant of Antarctic Seas.

The Victorian specimen caught at Portland Bay, measured over 30 feet in length and 20 feet in girth.

Family. SCYLLIDÆ.

1286. *CROSSORHINUS ORNATUS*. De Vis.

Proc. Linn. Soc., N. S. Wales. Vol VIII., p. 289.
Moreton Bay.

Family. RAJIDÆ.

1287. *RAJA AUSTRALIS*. Macleay.

Proc. Linn. Soc., N. S. Wales. Vol. VIII., p. 461.
Outside Port Jackson in 50 fathoms.

1288. *RAJA NITIDA*. Gunth.

Report Chall. Exp. Zool. Part VI., p. 27. Pl. XIV., fig. A.

Angle of snout obtuse, with a very thin median papillary projection. Width of interorbital space a little less than the length of the orbit, and distance between the outer margins of the nostrils, less than their distance from the extremity of the snout. Teeth with very small points, almost obtuse. Outer pectoral margin obtusely rounded, the greatest width of disk being equal to the distance of the snout from the extremity of the ventral. All the upper parts covered with minute asperities, one or two curved spines in front, and behind the orbit, one in the middle of the back, and a series along the median line of the tail. Above light brown marbled with dark brown blotches which are ornamented with small round yellowish ocelli.

Twofold Bay, 120 fathoms.

1289. *RAJA DENTATA*. Klunz.

Archiv. fur Naturg., XXXVIII., 1872.

Breadth $1\frac{1}{2}$ in the total length. Length of disk (to the end of the base of the pectoral fins) $1\frac{1}{3}$ of the breadth of the disk. Tail nearly as long as the disk, which is twelve times as long as the

eye. Disk irregular, rhombic, its length not much less than its breadth. The snout is obtuse and not projecting. The front side of the pectoral fins rectilinear, the posterior slightly curved with rounded sides and backward angle. Eyes moderate, their longitudinal diameter equal to the breadth of the forehead. This last is concave. The snout cartilage is narrow, expanding towards the forehead. The distance between the nostrils is the same as their distance from the end of the snout. The back of the disk is everywhere covered with minute spines, with stronger ones disposed as follows:—One row along the supercilliary ridges in a curve, one row in the middle line of the back, extending to the tail where they are arranged in alternate irregular double rows. There are also large spines on the side of the tail, especially at the base; there is also a group of smaller spines on the cartilage of the snout. The teeth are in 42 longitudinal rows and are not acute. The ventral fins are long, their outer margin lobed, the front part with projecting points. Tail very depressed, a slight fold along the side, and compressed at the extremity, no distinct caudal fin. The two dorsal fins are close together, close to the tail, equal in size and rounded; the short space between these two fins bears a few spines. Colour grey, underneath white. 50 Ctm.

Port Phillip. (Klunzinger.)

1290. *TRYGON SEPHEN*. Forsk.

Gunth. Cat. VIII., p. 482. Macl. Proc. Linn. Soc., N. S. Wales, Vol. VIII., p. 212.

Tail with a broad cutaneous fold below, but without one above, about thrice as long as the disk. Disk rhombic, with obtuse angles. The upper parts densely covered with flat scale-like tubercles; several large globular tubercles in the median line of the scapular region. Coloration uniform.

Lower Burdekin. Salt water. (Macleay.)

1291. *TÆNIURA MORTONI*. Macleay.

Proc. Linn. Soc., N. S. Wales, Vol. VIII., p. 212.

Lower Burdekin. Salt water.